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HENRY V. POOR, Editor.

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☞ The *Mechanical Engineering* department of this paper will be under the charge of Mr. ZERAH COLBURN.

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American Railroad Journal.

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Saturday, January 21, 1854.

Comparative View of American and European Securities.

The probable effect that a European war would have upon the commercial affairs of this country, is one of the most interesting and exciting topics before the public. It is a subject upon which the opinion of hardly any two men agree. Some see in a war, high prices for many of our staples, active employment for our shipping, and a large influx of foreign capital, flowing for safety to this country. Others see in a war, an exactly reversed state of things; a great loss in the general derangement of business, a diminished amount of aggregate productions in foreign countries, and a consequently diminished demand for other staples of our own, which, perhaps, perform a more important part in our commercial affairs than corn and provisions. They fear, too, should public credit in Europe sustain a severe shock, that property there could not be converted into ready money for exportation to this country; that the exportation of some of our own leading staples would languish, and that the importation of foreign capital, which has been steadily coming into this country for several yearspast, would very nearly cease.

There can be no doubt that a state of things injurious to the interest of the European nations, is prejudicial to our own, though in a less degree. All commercial nations compose *one* family, the losses of the several members of which are shared by the others. Money, or property of which money is the representative, always seeks an equilibrium. It flows in the direction of the vacuum. If it be abundant in Europe, it moves off, to use the expression, to other countries. Should the reverse prove true, the current will be in the *opposite* direction. The prosperity of one member of the great commercial family reacts upon all the others, while all are more or less implicated in the disasters of the individual. The highest good of *each*, is in fact, measured by the aggregate good of *all*.

An European war therefore could not fail to effect this country disastrously. A sudden outbreak of hostilities might send, in the outset a large amount of capital to this country. But the sudden abundance would be like the cargo of a wrecked vessel scattered profusely along our shores, which for a time would make a vastly greater show than if safely received into warehouses, and dealt out in the ordinary course of trade. The sudden influx would bear the same relation to the sums of which this country have been in the constant receipt from the continent, which have been the surplus of a prosperous industry, that the disaster supposed, would to the regular course of trade. Commercially, the United States have the same interest in the preservation of peace throughout the world, that European nations have, though this interest is more remote and contingent.

But whether war is to result or not, the fear of war, and the measures taken to escape, as far as possible, from its evils, cannot fail to excite general inquiry as to the value of the securities of this country, and their safety for investment, for persons seeking to place their means beyond the reach of contingency. The securities of the old World are distrusted, and attention is turned to those of the United States, as offering better conditions of safety. It strikes us that only a cursory examination will show that the securities of this country are entitled to a vastly greater degree of confidence than those of Europe.

In commercial matters it is the *character* of a transaction that renders its fulfillment probable. On the contrary, as a rule of law, an obligation unaccompanied by a *consideration* received by the *obliged* party to the contract, is *voidable*. It is only an extension of this principle, which is the reason why a *banker* will not discount *accommodation* paper. He sees that the obliged party has received no benefit by lending his name, and further, that as the *paper* does not represent a *bona fide* transaction, or the transfer of property from one person to another, that there may be no such basis and nothing from which the paper can be met at maturity. Such, as before stated, are principles of law, and such the practical construction given to contracts which are not based upon a regular and ordinary business transaction. Now the securities of the United States, both of the States and of private companies, are based upon regular *business* transactions. They represent money borrowed for *useful* objects. The consideration has been actually *received*; and more than this, the benefits gained are more than quadruple the amount of money borrowed. There is not a doubt, that for every dollar expended upon our public works, the value of the taxable property of the country has been increased more than four fold. The credits, therefore, used for the construction of railroads and canals, and works of a similar character, have been in the nature of regular *bona fide* transactions, where the value represented has been received, and where to crown the whole, the ventures, if they may be so called, have proved most fortunate, and where the borrowing parties have, to show for their debts, property exceeding in amount four times their obligations.

The *commercial* character of the obligations contracted by the several States is further shown by the measures adopted (with one or two exceptions) for their prompt payment. In this particular the policy of the National and State governments, of this country, contrasts most strikingly with that of European States. Our general government is rapidly liquidating its trifling debt of some £10,000,000, by purchasing its *immatured* obligations at a premium of *twenty-one per cent!* Nearly all State governments are rapidly liquid-

ating their liabiiities incurred in most instances for works of internal improvements. The progress of a few years will extinguish the obligations of the most of them. Those liabilities are treated exactly as are those of a private commercial house, which are not left, as a matter of course, as an inheritance to *heirs*. The *public* debt of this country is in such a process of rapid payment, that the lapse of ten years will reduce the aggregate indebtedness of this kind, to one-tenth its present amount.

Of the character described are the liabilities of *private* companies. These have all the guarantees of soundness, by the nature of the original transactions, and the successful results which have been achieved. To an unquestioned moral and legal obligation may be added the abundant means in the hands of our people, which the public works themselves have created. No possible excuse can be framed for non-payment, neither in the nature of the original transactions, nor for the want of sufficient means.

Contrast the nature of the *bases* upon which the public obligations of this country rest, with those which underlie the obligations of European States. It is not invidious to say, that the debts of the latter were not contracted solely with a view to promote the material and social advantage of the people, but to carry out the measures, or policy of the governments, quite adverse in their influence, to the public good. The national debt of England, for example, was created for the purpose of carrying on distant, expensive, and useless, wars; wars worse than useless, because attended with a vast destruction of property and life, demoralizing in the highest degree to all connected with them, and entailing vast burdens upon the industry of the nation, in addition to those which the debts have created. Debts of other States have been contracted for similar objects, or for the purpose of providing means to curb still further the rights of the people. Such debts, the great mass feel no obligation for their payment, in the sense of benefits received. The obligations imposed are not met with that feeling of moral duty which renders the payment of an ordinary debt a pleasure. Those upon whom in the end, the burden falls, the laboring classes, having had no voice in their contraction, nor payment, do not look with anxious eyes to the final emancipation from their liabilities, as do those by whom, from the nearer relation the *individual* sustains to the *State*, a public debt is regarded in almost the same light as a *private* one. While in Europe the great mass are indifferent to the future payment of the public liabilities, the privileged and wealthy classes, have too many burdens resting upon their shoulders, to think of providing anything but for the wants of the day. Under such a state of feeling, the debts of the European governments go on steadily increasing from year to year, absorbing in useless expenditures, no small portion of the annual increments of wealth of their subjects.

As contrasted with those of our own people, the debts of European governments lack that sense of moral obligation for benefits *received*, which lie at the foundation of the obligations of the general and State governments of this country.

Neither have they been productive of *results*, by which the aggregate value of the property of the country has been vastly increased, and the general condition of the people, improved: in other words, they have *not* been in the nature of commercial transactions, nor would many of them be sustained, tried by the test that determines the validity of ordinary contracts.

With these differences in principle, we contend that American securities rest upon a much stronger basis than these of the European States. With us no sophistry can destroy the sense of moral obligation. In Europe that sense does not exist, because it cannot be connected with an idea of a benefit *received*. A change in the structure of European Governments might sweep away all acknowledgement of *past* obligations, because they rest only in memory. To effect a similar change in this country, human nature itself must be changed. A person therefore who purchases the securities of the latter takes a part in its progress, which based upon legitimate means, cannot fail to be accompanied by the most satisfactory results. Our indebtedness has been incurred as the most efficient means for promoting the physical comfort of our people. In Europe, the public debts have been incurred mainly upon *political* considerations. The results that have followed, instead of improving have rendered the condition of the great mass less tolerable, and if the nature of a transaction depends upon its original character what is there, when this is forgotten, why the obligation itself should not be repudiated?

In addition to the grounds that have been urged in favor of the securities of this country is to be taken into consideration, the facts, that the Government of the United States is the most stable one in the world for the reason that there is no person subject to its laws, that does not believe that he would be the *loser* by this ch ange. Every man in the community therefore acts as a custodian of our institutions. The loyalty to the Government is not an *enforced* one. It is the result of conviction rather than *coercion*. So long as this feeling prevails, fundamental change is impossible. The securities of this country therefore, partake of the immutability of the public sentiment, which must for a long time continue. They are inseparably connected with the *material* progress of our people.—This progress insures their safety, and this safety must continue so long as the character of our general indebtedness remains unchanged.

Discovery of Gold on the Northern, or Gov. Stevens', route to the Pacific.

The last mail from the Pacific brings the report that gold has been discovered by Capt. McClelland's surveying party upon the banks of the Yenass. Parties were engaged in digging, and were making from $3 to $6 per day. It will be recollected that Captain McClelland is engaged in conjunction with Gov. Stevens, in making the survey of the railroad from St. Pauls, Minnesota, to Puget's Sound.

This is another encouraging omen in favor of the Great Northern Route to the Pacific, and if the mines prove productive, we may expect, another season, to see hosts of adventurers flocking to them by this route.

Louisville and Covington Railroad.

The Louisville Democrat states, that notwithstanding the difficulties in the money market, and other obstacles, the most vigorous measures were adopted at a recent meeting of the Board of Directors to prosecute the work of the Louisville and Covington Railroad with renewed energy. Arrangements were made to place an increased force on the road, means provided to pay, and a determination manifested to carry on the work rapidly.

Abstract of Schedules and Tables appended to the New York and Erie Railroad Report.

CONSTRUCTION ACCOUNT—Schedule A.

This was given in the Journal of Dec. 17, 1853; but the footings may be repeated.

Amount to Sept. 30, 1852	$26,571,732 77
From Sept. 30, 1852 to Sept. 30, 1853	4,651,101 44
Total, Sept. 30, 1853	$31,222,834 21

FUNDED DEBT—Schedule B.

1st Mortgage Bonds	$3,000,000 00
2d " "	4,000,000 00
Income Bonds	2,649,000 00
Convertible Bonds, 1871	4,351,000 00
" " 1862	3,500,000 00
Mortgage Bonds, 1883	2,170,000 00
7 per cent. certificates	503,868 90
	$20,173,868 90

FLOATING DEBT—Schedule C.

Bills payable	$3,038,089 40
" receivable	353,062 91
Balance, floating debt	$2,685,026 49

TRANSPORTATION ACCOUNT—Schedule D.

To Interests paid during year	$1,298,291 29
" Dividend on stock	252,660 00
" Transportation expenses, 1853	2,407,373 13
" Rents and losses	111,408 55
" Balance to new account	366,390 69
	$4,436,123 66
By Balance from old account	$ 117,161 30
" Freight earnings, 1850	2,537,214 52
" Passenger " "	1,601,209 71
" Other earnings and rents	142,019 46
" Dividends, Buffalo and State Line Railroad	38,518 67
	$4,436,123 66

TRANSPORTATION EXPENSES—Schedule F.

Office and Station Expenses.	
Office expenses and Stationery	$ 38,711 78
Agents and Clerks	108,500 24
Labor, loading and unloading	124,020 17
Cost of Running.	
Porters, watchmen and switchmen	48,845 62
Wood and water Station attendance	8,058 78
Fuel, first cost and labor	373,818 45
Pass. Conductors, Baggage and Brakemen	85,772 27
Freight Conductors and Brakemen	118,889 42
Passenger Enginemen and Firemen	78,874 34
Freight Enginemen and Firemen	101,324 80
Oil and waste, Passenger engines and tenders	28,696 62
Oil and waste, Freight engines and tenders	32,451 53
Oil and waste, Passenger and Baggage cars	13,889 91
Oil and waste, Freight cars	19,573 52
General Expenses.	
Loss and damage of goods and baggage	43,517 53
Damages for injuries to persons	34,984 23
" to property	9,566 35
General superintendence	30,994 49
Contingencies	49,145 86
Repairs of Engines and Cars.	
Engines and tenders, passenger	115,773 84
" " freight	117,696 69
Passenger and baggage cars	81,603 28
Freight cars	78,393 47
Tools and machinery in shops	24,479 30
Incidental expenses about shops	16,947 30

Repairs of Track and Roadway.

Roadbed	21,690 70
Track	346,724 31
Fences, Gates, etc.	5,832 57

Repairs of Structures.

Truss bridges	15,743 61
Passenger, wood and water stations	19,882 22
Engine and car houses, machine and work shops	5,461 02
Rents, (dwellings.)	523 78
Telegraph	3,012 70

Incidental.

Superintendence and office expenses	3,139 40
Taxes	41,372 25
Contingencies	11,099 33

Miscellaneous.

Ferry	122,268 61
Expenses of operating Telegraph	26,092 84
Total	$2,407,373 13

TABLE (A) OF BRANCH AND TRIBUTARY ROADS.

Roads Built.

From.	To.	Miles.
Sufferns	Piermont	18
Chester	Newburg	19
Great Bend	Scranton	50
Owego	Ithica	28
Elmira	Canandaigua	64
"	Niagara Falls	98
Corning	Batavia	90
"	Blossburg	40
Hornellsville	Buffalo	91
Dunkirk	Pennsylvania Line	28
		526

Roads not Completed.

Susquehanna, Pa.	Carbondale, Pa.	40
Binghampton	Albany	140
"	Utica	85
"	Syracuse and Oswego	109
"	Auburn	75
Elmira	Williamsport, Pa	75
Corning	Buffalo	45
"	Ceres and Pittsburg, Pa	75
Olean	Ceres and Pittsburg, Pa	187
Little Valley	Erie, Pa.	82
		913

(C) CHARACTERISTICS OF THE ROAD, GRADES, ELEVATIONS, DISTANCES, ETC.

Names of Places.	Elevation above tide, in feet.	Distance. from N. Y. via U. R. R. in miles.
Sufferns	281·86	32
Chester	455·65	55
Otisville Summit	895·78	75½
Delaware Station	436·42	88
Deposit	997·17	176¾
Gulf Summit	1,366·38	184
Susquehanna	906·88	192
Owego	813·65	236½
Elmira	854·32	273
Corning	921·03	290¾
Hornellsville	1,138·87	331½
Almond Summit	1,760·17	344¾
Andover	1,576·25	349
Belvidere	1,369·38	365½
Cuba Summit	1,677·42	377¾
Olean	1,418·52	394¾
Great Valley	1,390·58	410¾
Summit	1,595·58	436
Dunkirk	580·00	459

ALIGNMENT.

Curvature.

Name of Division.	Whole No. of Degrees,	Aver'ge per Mile Deg.
Eastern	4,490	60
Delaware	9,244	88
Susquehanna	4,317	35
Western	4,201	32
Total	22,252	50

Line.

	Curved, in feet.	Straight, in feet.
Eastern	138,870	250,530
Delaware	296,840	248,522
Susquehanna	221,095	512,620
Western	193,750	487,051
Total	850,555	1,498,723

Grades.

	Ascent West, in feet.	Descent West, in feet.
Eastern	1,625	1,189
Delaware	930	459
Susquehanna	486	244
Western	1,282	1,840
Total	4,323	3,732

	Sum of both, in feet.	Average per Mile, in feet.
Eastern	2,814	38
Delaware	1,389	13
Susquehanna	730	5
Western	3,123	24
Total	8,056	18.

TABLE (D) OF BRIDGING.

Division.	Trestle, feet.	Total bridg'g, feet.	Farm and highway Bridging.
Newburg Branch	——	865	—
Eastern	1,184	3,430	14
Delaware	670	4,427	5
Susquehann	1,299	12,262	10
Western	608	2,743	6
	3,761	23,727	35
Union Railroad	188	1,610	
Totals	3,949	25,337	70

Of the above, the bridging in feet on second track, is as follows:

Eastern	442	1,308	00
Susquehann	187	3,836	00
Union Railroad	—	334	00
Totals	629	5,478	00

Culverts.

Union Railroad	5 arch	from	6	to 12 feet.
" "	15 box	"	2	to 4 "
Newbnrg Branch	4 arch	"	6	to 15 "
" "	10 box	"	1½	to 3 "
Eastern Division	25 arch	"	6	to 40 "
" "	116 box	"	1	to 4 "
Delaware "	26 arch	"	6	to 15 "
" "	186 box	"	1	to 4 "
Susque. "	46 arch	"	3	to 15 "
" "	79 box	"	2	to 4 "
" "	68 open	"	6	to 20 "
" "	112 drains	"	2	to 6 "
Western "	58 arch	"	4	to 30 "
" "	197 box	"	2	to 5 "
" "	73 open	"	6	to 12 "

152 feet Viaduct, 3 Arches each 30 feet.
35 " " 1 " " 15 "
86 " " 3 " " 2,15; 1,20.

(D) WIDTH OF EXCAVATIONS AND EMBANKMENTS.

Excavations.—For 1st track, 20 feet in thorough cuts, and 17 feet in side cuts, including 4 feet ditches. For 2d track, 23 feet in thorough cuts, and 18 feet in side cuts, including 5 feet ditches.

Embankments.—For 1st track, 14 feet at grade. For 2d track, 13 feet at grade.

Slopes in Rock.—Usually from 1-5 to 1 to 1-2 to 1.

Slopes in Earth.—Usually from 1 1-2, to 1 to 2 to 1.

Cross-Ties.

Dimensions.—Generally 9 feet long, 6 inches thick, and not less than six inches on the face.

Number.—In old track about 2,200 per mile. In new track about 2,934 per mile.

Chairs.

Weight.—In old track about 17 lbs. each. In new track, and renewals, about 25 lbs. each.

Number.—About 600 per mile.

Spikes.

Weight.—About 9 ounces each.

Number.—About 13,493 per mile.

Iron Rails.

Division.	Total tons.	Total miles.
Union Railroad	4,100	41
Newburg Branch	2,000	20
Eastern Division	13,700	137
Delaware	11,900	119
Susquehanna	23,163	244¾
Western	14,420	153
Total	69,283	714¾

	First track.	Second track.	Sidings and turnouts.
Union R. R., narrow	27	—	—
" " wide	11	—	3
Newburg Branch	18½	—	1½
Eastern	74	47	16
Delaware	104	—	15
Susquehanna	139	86¾	19
Western	128½	—	24½
Total	502	133¾	79

BALLASTING.

On the Union Railroad, 29¾ miles of the first track are ballasted to a depth of 3 inches. Of the second track, 5 miles are ballasted 18 inches deep, and 7½ miles remain to be ballasted.

On the Newburg Branch, 9 miles are ballasted 12 inches deep; the remaining 9½ miles 6 inches deep.

On the Eastern Division, 42 miles of the first track are ballasted 18 inches deep; 12½ miles, 12 inches and 20 miles remain to be ballasted. Of the second track 44 miles are ballastsd 24 inches deep, while 21½ miles remain to be ballasted.

The whole of the first track of the Delaware Division, 104 miles, is ballasted 18 inches deep, but of an inferior quality. Of the second track, 3 miles are ballasted 24 inches deep, and 11½ miles remain to be ballasted.

On the Susquehanna Division, 25 miles of the first track are ballasted 6 inches deep, and 115 miles remain to be ballasted. The whole of the second track, from Susquehanna to Corning, 86¾ miles, is ballasted 30 inches deep.

On the Western Division, 107 miles are ballasted 18 inches deep, and 21½ miles remain to be ballasted.

(E.) STATEMENT OF ENGINES COST OF REPAIRS AND PERFORMANCE IN MILES RUN.

Name of Division.	No. of Eng's on each Division.	Cost of ord. Repairs.	Cost of extra Repairs.
Union Railroad	9	$12,717 34	$3,078 52
Eastern Division	42	51,429 95	22,227 09
Delaware do.	31	23,463 66	49,205 45
Susquehanna Divis.	35	28,784 97	45,270 24
Western do.	36	32,348 43	20,118 66
Totals	153	$148,744 35	$139,899 96

	Total Cost of Repairs.	Miles run.	Cost per mile run, in cents.
Union Railroad	$15,795 86	114,825	13,75
Eastern Division	73,657 04	746,627	9,87
Delaware do.	72,669 11	569,448	12,76
Susquehanna Divis.	74,055 21	703,384	10,53
Western do.	52,467 09	656,225	8,00
Totals	$288,644 31	2,790,509	10,34

TABLE (F.) OF PASSENGER BUSINESS FROM OCT. 1, 1851, TO SEPT. 30, 1853.

Giving the number of passengers entering and leaving the cars, and the tickets sold and taken up.

	Passeng's.	Receipts.
Oct. 1, 1851, to April 1, 1852.		
New York and Jersey City	105,421	$360,751 01
Bergen to Ramseys (Branch)	....	....
Newburg	14,512	17,670 71
Vail's Gate to Craigville Do.	9,813	4,446 69
Horseheads to Jefferson Do.	53,896	74,457 69
Piermont to Suffern	18,604	13,249 25
Ramapo to Oxford	10,079	5,715 81
Chester to Otisville	50,337	42,347 10
Delaware to Deposit	55,493	78,823 05
Susquehanna to Elmira	152,999	178,402 17
Big Flats to Canisteo	44,661	57,675 60
Almond to Forestville	87,6254	73,960 33
Hornellsville	15,572	24,044 81
Dunkirk	39,289	178,640 40
Various	....	....
Totals	658,302	$1,110,184 60
April 1, 1852, to September 30, 1852.		
New York and Jersey City	162,927	$532,254 87
Bergen to Ramseys (Branch)	10,381	3,646 34
Newburg	17,939	20,651 51
Vail's Gate to Craigville Do.	31,102	25,284 02
Horseheads to Jefferson Do.	71,375	73,700 36
Piermont to Suffern	31,749	17,351 37
Ramapo to Oxford	15,188	8,977 28
Chester to Otisville	69,274	53,018 80
Delaware to Deposit	77,767	128,931 43
Susquehanna to Elmira	246,413	242,010 21
Big Flats to Canisteo	69,0934	49,813 27
Almond to Forestville	33,830	99,005 63
Hornellsville	27,0184	35,853 79
Dunkirk	81,106	343,852 36
Various	....	....
Totals	945,153	$1,634,361 24
Oct. 1, 1852, to April 1, 1853.		
New York and Jersey City	199,793	$447,704 09
Bergen to Ramseys (Branch)	102,276	36,087 48
Newburg	15,533	16,856 76
Vail's Gate to Craigville Do.	12,071	4,212 83
Horseheads to Jefferson Do.	31,924	29,968 98
Piermont to Suffern	25,318	12,512 53
Ramapo to Oxford	17,021	9,718 34
Chester to Otisville	62,846	45,991 26
Delaware to Deposit	65,348	86,079 28
Susquehanna to Elmira	213,796	224,997 02
Big Flats to Canisteo	60,333	42,894 68
Almond to Forestville	90,000	80,478 91
Hornellsville	24,680	44,917 53
Dunkirk	46,460	240,680 21
Various	3,000	5,722 40
Totals	970,404	$1,334,822 30
April 1, 1853, to Sept. 30, 1853.		
New York and Jersey City	298,180	$729,623 15
Bergen to Ramseys (Branch)	133,781	48,033 70
Newburg	18,776	18,887 61
Vail's Gate to Craigville Do.	13,213	4,899 74
Horseheads to Jefferson Do.	....	....
Piermont to Suffern	29,427	15,050 27
Ramapo to Oxford	18,263	9,883 30
Chester to Otisville	78,772	55,438 07
Delaware to Deposit	82,232	119,626 91
Susquehanna to Elmira	268,564	304,147 50
Big Flats to Canisteo	87,942	67,176 08
Almond to Forestville	156,131	102,658 17
Hornellsville	63,550	131,168 09
Dunkirk	83,968	311,109 34
Various	5,672	5,374 31
Totals	1,338,471	$1,927,026 24

The business *going and coming* to the different offices for 1853, thus appears to be $3,261,848 54, and, therefore, *one-half* of this, $1,630,924 27 is the actual income from passenger transportation. This is $29,714 56 more than the income credited from this source to the transportation account. The report does not appear to account for this discrepancy.—*Ed. R. R. Journal.*

That part of Table (F), of passenger business going and coming to the principal stations gives the same character of information as is contained in the preceding table.

TABLE (G) OF THE TONS OF FREIGHT AND RECEIPTS THEREFOR, FORWARDED AND RECEIVED FROM OCT. 1, 1851, TO SEPT. 30, 1853.

Stations.	From Oct. 1st, 1851, to April 1st, 1852. Forwarded. Tons.	Dolls.	Cts.	Received. Tons.	Dolls.	Cts.	From April 1st, 1852 to Sept. 30th, 1852. Forwarded. Tons.	Dolls.	Cts.	Received. Tons.	Dolls.	Cts.	From April 1st, 1853, to Sept. 30th, 1853. Forwarded. Tons.	Dolls.	Cts.	Received. Tons.	Dolls.	Cts.
Eastern Termini	79,341	406,323	47	112,882	647,072	56	67,989	461,666	89	109,687	584,796	19						
Jersey Road	7,829	11,983	78	16,135	17,889	57	8,237	16,690	95	18,355	25,839	13						
Piermont to Sufferns	3,302	5,324	29	6,295	13,616	82	2,536	4,485	43	9,294	35,427	77						
Newburg Branch	310	672	14	1,363	2,792	50	381	755	89	1,123	2,463	54						
From Sufferns to Delaware	21,502	54,512	85	23,867	48,153	33	26,515	71,247	07	25,356	52,802	81						
Delaware to Susquehanna	9,447	28,736	99	19,074	49,818	11	13,748	28,208	95	17,015	54,246	68						
Susquehanna to Hornellsville	84,849	196,358	7	71,345	136,085	76	135,540	215,441	14	129,828	196,044	90						
Elmira	21,118	93,348	73	5,619	18,436	01	5,627	28,011	25	1,332	8,879	08						
Hornellsville to Forestville	15,181	65,555	58	8,611	44,123	42	54,472	227,015	08	12,549	59,309	99						
Dunkirk	36,049	284,536	39	17,729	192,750	7	26,179	182,715	93	19,877	230,125	36						
Buffalo	5,764	33,942	76	1,772	15,551	90	5,123	87,209	95	2,431	24,523	08						
	284,692	1,186,295	05	284,692	1,186,295	05	340,347	1,273,448	53	346,347	1,273,448	53						
Eastern Termini	49,493	327,958	65	70,207	408,999	23	60,936	394,887	24	70,625	375,724	61						
Jersey Road	....	....	..	....	....	..	....	....	..	....	....	..						
Piermont to Sufferns	1,649	5,508	64	4,163	11,982	57	....	7,916	39	8,974	36,070	53						
Newburg Branch	488	1,188	75	620	1,667	7	460	856	88	1,195	2,640	45						
From Sufferns to Delaware	17,198	48,761	21	75,186	41,510	42	23,832	69,480	8	23,203	50,234	62						
Delaware to Susquehanna	6,951	27,719	90	16,341	58,708	30	7,456	21,949	8	16,555	47,908	15						
Susquehanna to Hornellsville	49,393	131,751	57	48,794	129,075	43	88,455	135,981	9	94,634	186,149	97						
Elmira	17,718	93,888	75	4,592	28,737	37	7,969	33,220	88	4,058	16,579	80						
Hornellsville to Forestville	15,887	76,975	38	7,122	38,662	24	29,218	117,382	11	13,757	61,825	..						
Dunkirk	19,000	135,825	77	15,752	135,185	99	28,553	181,107	62	17,818	186,598	24						
	177,777	849,528	62	177,777	849,528	62	250,319	962,731	37	250,319	962,731	37						

The receipts for freight forwarded from Oct. 1st, 1852, to Sept. 30th, 1853, being $2,459,743 58, are $77,470 94 less than the amount credited to that source in the transportation account. On another page, $74,043 78 are given as receipts for carrying *express freight*, but it is not stated wherein that sum is included in the general account. $21,904 85 was also received for *extra baggage*. The mail service performed in 1853 amounted to $110,708 79. The balances due from station agents and conductors amounted, Sept. 30th, 1853, to $123,638 18.

Union Depot at Binghampton.

The Binghampton *Daily Republican* states that a large Union Depot, for the Erie, Albany and Syracuse Railroads, will soon be erected in Binghampton, worthy of these railroads, and of the village. Messrs. MINOT, KIRKWOOD and GILBERT, Superintendents of the Erie, Albany and Syracuse Railroads, and others, met at the Lewis House in this village on this subject. A beautiful, open iron bridge, will be erected over Chenango street for the trains—a structure which the safety and convenience of our citizens have long required. A large Union Depot for the mutual accommodation of the railroads and the people—a massive building which will be an ornament to the village, avoiding the fearful dangers, of which we have had painful examples, of railroad crossings, is the only thing with which our citizens will be satisfied, and is alike demanded by the interests of the railroads and the people.

Wilmington and Manchester Railroad.

We learn from the Marion *Star* that the part of this Road West of the Great Pee Dee, was completed last week, so that the cars now run up to the river. The Eastern end of the road is also finished to within three miles of the Great Pee Dee. The cylinders at the Great Pee Dee Bridge are all sunk, and rest on a firm clay foundation, from sixteen to eighteen feet below the bed of the river, so that hereafter the construction of the bridge may proceed without impediment or delay.

Safety System of the New York and New Haven Railroad.

BY ZERAH COLBURN.

By a "system of safety," as applied to a railroad, we understand an elaboration and arrangement of precautions, designed for the observance of each and every one assisting in conducting the transportation of the road.

Railroad systems are different, depending incidentally upon the characteristics of the road, and of its traffic, but especially different according to the estimate placed by different managers on the *value* of *safety*, and the *necessity* of *caution*.

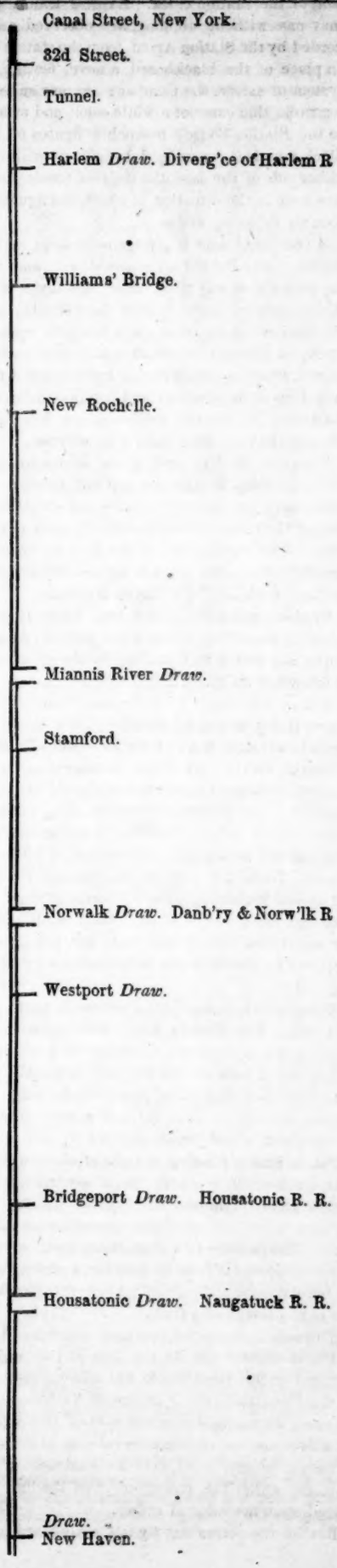
A safe system, well observed, is about the same thing as safe travelling. The *feeling* of security, which travellers can best appreciate, and which results in the preference, and to the revenue, of a safe road, is enhanced by a knowledge, on the part of travellers, of that system to which their lives are committed.

As an illustration of a safe system, possessing especial precautionary features; from its value as an example for imitation; and from its interesting character in inspiring the confidence of travellers over that line, the regulations adopted by the New York and New Haven Railroad Company will be presented.

The worst accidents which occur on railroads are the results of derailments and collisions. The former class of accidents may occur at draw-bridges or switches; at defective or obstructed points of the line; or at any point by defective machinery. Collisions may occur either from meeting or overtaking trains. To prevent derailments, (otherwise getting "off the track,") requires that all interruption or diversion of the continuity of the rails, at the time of the passage of the trains, be guarded against. This duty is entrusted to draw and switch tenders, track repairers and signal men. They protect the track, and communicate with the enginemen and conductors of the trains by signals. The movements of the trains, relative to each other, any irregularity in which would tend to produce collisions, are controlled by the enginemen and conductors.

It is principally against these most serious classes of accidents, and especially against front or rear collisions, that the peculiar features of the system of the New Haven Co. are made to apply.

Before describing their system in full, a brief description of the line of their railroad is necessary. This road, with a portion of the Harlem road, extends between the two points indicated in its name, and is 76 miles long between its extreme termini. It follows the general course of the north shore of Long Island Sound, crossing many of the rivers and creeks having their outlets therein. Between most of these streams are elevated ridges, over which the road passes, often by considerably steep grades, being in some cases of from 40 to 50 feet to the mile. Some of the streams, being navigable, are crossed by draw-bridges, there being seven of these between the termini of the road. The New York and New Haven Railroad proper, extending east of Williams Bridge, has a double track, with the exception of 6 1-6 miles of single track between Williams Bridge and New Rochelle. Between Williams Bridge and New York, a distance of 13¼ miles, the trains are run over the double track of the Harlem Railroad; the last 2¼ miles, within the city of New York, being run by horse power.



The preceding diagram shows the position of the principal stations, lateral roads, draw-bridges, single track, etc.

There are three through express trains, each way, daily; also three through accommodation passenger, and two through freight trains, daily; besides special trains to Port Chester, Bridgeport, etc.

The most cautious regulations are made for the safety of trains on the single track. Passenger trains from New Haven or the east, reaching the single track, must wait *one hour behind the regular time* of any train which may be then due from New York. After waiting its time up, and acquiring the right to proceed, it must keep as much behind its time at each station as it was required to be at the regular passing place, until the expected train is passed.

Beyond this waiting time a further allowance of three minutes is made by trains from the east, for any possible variation of watches, an allowance upon which trains from the west have no right to encroach. Trains from New York have the right to the single track for one hour behind their regular time, except they should overtake delayed passenger trains running in the same direction. In the latter case the rear train has no right to pass the delayed train between 32d street and New Rochelle.

No train can enter and proceed upon the single track, from either end, without receiving from the agent at that end, (New Rochelle or Williams Bridge,) a written memorandum of the time of all trains due, or which are to pass that station in an opposite direction, during the remainder of the day. This list is given by the agent to the conductor of each passenger, freight, extra or gravel train entering the single track, and express trains which do not make a full stop are ordered to run so slow as to receive the list extended upon a stick to some one upon the train. No train can pass without receiving this list. This memorandum conveys no *instructions* to the conductor as to his right to proceed; he is expected from his own observation to know the truth of the list furnished him, and in any case the responsibility of running upon the single track rests entirely with the conductor and engineman. If the conductor or engineman should deem it imprudent to run upon the single track, *either* has authority of himself to hold the train.

All trains must enter and leave the single track at a slow rate of speed.

Besides the single track, already noticed, three of the large bridges of the road are crossed in such manner that two trains in opposite directions cannot pass the bridge at the same time. The track is properly *double*, but one rail of one track is laid *between* the rails of the other, so that the two occupy but little more width than a single track, for which the bridges were originally built. The following diagram shows the manner in which the tracks enter and leave the bridge, no switches being used.

Each of the single track bridges has a draw, but the signals for the right of precedence of trains, and for the position of the draw, are independent of each other. The indication of the draw-bridge

signal, is of course of the first consequence, as if the draw is off *no* trains can pass; while if it be on, *one* train can pass. The draw signal will be explained hereafter. The fact that the single track bridges have draws, for which all tra ns are brought to a *full stop* before passing, would tend to remove nearly all of the danger of collisions between opposite trains. But the company have gone farther. They have erected high towers, upon which are placed signal boards or targets; the latter capable of two adjustments, showing respectively the right to the bridge by trains in either direction. At night a large reflecting lamp, burning with a clear white light, is displayed from a high window on one or the other side of the tower, according to the position of the train to be signalled across. These towers are conspicuous objects, readily noticed by the passsenger in the cars, and unavoidably in view of the engineman.

They are placed, one on the Housatonic River Bridge, five miles east of Bridgeport; one at the Norwalk Bridge; and one at the "Coscob" Bridge, across the Miannis River, 32¼ miles from New York.

All the preceding regulations have been established to protect the trains from collisions by meeting on single track. Upon the double track no collisions can occur between oppositely bound trains, except one be on the wrong (left hand) track. When, from any cause, this becomes necessary, the rules of the company allow no conductor or engineman to receive instructions from *any person* as to the safety of such a course, but all trains on the wrong track are compelled to run slow, with a flag by day, or light by night, well in advance.

We then come to a class of accidents, serious in their nature, and far more liable of occurrance than most of the others. These are collisions between moving and standing trains, or between trains going in the same direction. Against these accidents the New Haven company have established the most effectual, and, in some cases the most ingenious precautions.

It is necessary that trains going in the same direction shall be separated by an interval of time, sufficient, in the event of unexpected stoppage of the forward train, to send back an efficient signal to warn and stop the following train. This interval is generally *ten minutes* for passenger trains, and this is the allowance adopted by the New Haven company. Extra trains, or engines following regular trains, are kept fifteen minutes behind. The observance of the "ten minutes" rule is at the foundation of safety; but how can an engineman know, at any point, the time at which a previous train has passed? It is this very information which the *system* of the road renders capable of being given.

On the outside of every station house, facing the track, is a blackboard, upon which the time of each train is registered as it passes. On the upper half of the board the time of the passage of the last train, going from New York, is placed; and on the lower half that of the last train g ing towards New York. The Station agent, at each station, makes the record of the time of each train from a written card given him by the Conductor just upon leaving. The time, given by the Conductor, the Station Agent also compares with that of the Station clock. Express trains, which may pass without stopping, are observed and recorded by the Station Agent, from the station time, In place of the blackboard, a novel feature in a system of safety, the Company are now substituting projecting cases of a white color, and attached to the Station house; moveable figures of a full black face being arranged to indicate plainly, on either side of the case, the time of passing of the last train in the direction in which the figures are seen by following trains.

A red signal light is always to be kept at each station, ready lighted after sun-down, and upon the passage of any train after sun-down, within fifteen minutes of the time of the following train, the Station Agent must wave his light upon the track, for fifteen minutes after such first train has passed, *provided* the following train does not regularly stop at the Station; and he must inform the Conductor by written memorandum how many minutes the preceding train is in advance.

Upon the Harlem road, *green* lamps by night and *green* flags by day, are put out to show that trains have just passed in the same direction as that of the trains to which such signals are exhibited. The regulations of the Harlem road are entirely independent of, and beyond the control of the New York and New Haven Railroad.

By these precautions each train learns the time at which preceding trains have passed the same points, and leaves its own time for the government of following trains.

As the New Haven road has many curves, upon which trains cannot be seen for but a short distance in advance, it has been an object of earnest endeavor, on the part of the managers to devise and establish such apparatus as should make the record of the intervals between the passing of trains, within fifteen minutes, by automatic process; or self acting and independent of all attendence. To do this requires an apparatus for measuring and indicating a fixed interval of time, and also that the passage of each train shall restore the apparatus to its normal state and put it in adjustment for commencing its indications for following trains.

The plan which has been the nearest perfected, and which has already given encouragement of yielding the desired result, consists of a box of alcohol placed beneath the rail, the deflection produced by the weight of a passing train being employed to force the fluid through a tube entering a columnar stand beside the track, and within which it acts in winding a train of clock-work.—This clock-work is set to run fifteen minutes, in which time it moves the pointer on the dial through three-fourths of the circumference of the latter. The passage of a train at any position of the pointer releases it from its position, restoring it to its normal state and re-winding the wheel work for the next passage of a train.

The only indicator of this kind which has been put in successful use on the line of the road, is situated on the south track, near the eastern end of the Housatonic River bridge, at the Naugatuck Railroad Junction, five miles east of Bridgeport. Whatever may be its ultimate relation to the safety system of this road, it is an evidence of the estimate which the management of the line has placed upon the value of safety.

Besides the permanent signals established upon the line, the trains, visible of themselves, by day, on the straight portions of the road, are provided, at night, with *tail lights*, of greater size of burner, and greater reflecting power, than are generally used upon railroads. The "tail lights" are of a deep red color, and are carried one on the rear platform of each train. On most roads the "tail light" is an ordinary red lantern. The red lights and red flag of the train are under the charge of the first brakeman, who, when the train is in motion, always rides outside of the *last* car; and no excuse is ever received for neglecting to have them on the trains, ready for immediate use. The train signals, employed to give warning of following *extra* trains, will be hereafter noticed.

The engine, of course, has its "head light" always trimmed and burning after dark. The head light is white, and has a reflector of 21 inches diameter.

No train is ever allowed to pass between a station and another train which is receiving or discharging passengers. This rule is always imperative. An Express train, approaching a station where a way train is due, must always moderate its speed so that it may be stopped before it passes the standing train.

These regulations are for the government of trains which are in motion, or which may be stopping at the usual stations. In the event of a train becoming disabled upon the road, where no other train would expect to meet or overtake it, signals must be sent both ways on single track and back on double track to apprize approaching trains of such stoppage. Upon the New Haven road especial caution is shown in this particular.—The signal either for day or night, is entrusted to the most reliable brakemen, and they must display it for the warning of approaching trains until their own train is in motion. *They are not expected to return to their own train*, but must show their signals, and wait to be taken up on the *following train*. The signal must always be shown on the unusual stoppage of any train, as a matter of course, the Conductor having no right to presume that no trains are approaching.

Extra trains are like comets, and as it is not to be supposed that regular trains can know when to expect them, they must of themselves keep out of the way of regular trains.

Upon the New Haven Road no extra train or extra engine is to be run over the line without the knowledge and consent of the Superintendent, Assistant Superintendent or the Superintendent of Motive Power, when the following rules will be observed.

Extra trains following regular trains, must keep out of the way of all trains on the time-table, keeping fifteen minutes behind the regular train in advance.

The regular train in advance must always show *two* signals for extra trains; one on the engine and one on the rear of the train. Men engaged in repairing the line may fail to notice a signal in front, while a signal behind is almost sure to be seen at the same time. The day signal is the red flag, the night signal the red light. The red light is carried on the engine just behind the smoke pipe. The ordinary "tail light" is not to be regarded as a signal for a following extra: two red lights on the hind end of the train make the proper signal.—Conductors and Enginemen of Extra trains, or ex-

tra engines, must know of themselves, that proper signals are placed upon the train in advance.

Gravel trains must keep out of the way of Extras, and the Conductors of gravel trains must observe every passing train to see if signals are carried for extras. Gravel trains are allowed to operate only between specified points, and must not go beyond these without the permission of the Superintendent or his Assistant.

Signal posts are erected every 1500 ft. from each road crossing. On reaching these posts, when approaching a crossing, the whistle is blown for five seconds of time, and the bell afterwards rung till after the crossing is passed.

The second class of accidents are those where the trains leave the rails, owing to interruption by displacement of drawbridges, switches, or by portions of the track under repair.

The New Haven road has seven draw-bridges between its termini, some of which are in situations where especial caution is demanded for approaching safely. Fully aware of the danger of any interruption of the line, immediately over a channel of navigable water, and with the remembrance of the most fearful calamities arising from this cause, not only on this but on other lines, the Legislature of Connecticut have compelled the stoppage of all trains before crossing draw-bridges. This practice involves a loss of time of from eight to fifteen minutes in the entire trip over the New Haven road. The regulations in regard to draw-bridges are principally as follows:

Signal posts, marked "Draw-bridge," are placed 3,500 feet from each end of each draw-bridge, to warn the engineman to moderate his speed.

Signal posts, with the full word "Stop" shown upon them in large letters, are erected at a distance of from 1000 to 1,500 feet from each end of each draw bridge, and trains on reaching these when approaching the draw are to be stopped.—The regular alarm signal, which is two puffs of the whistle is always given on reaching these posts, and before reaching them if the train is moving too fast, or from any cause is difficult to control.

The signal indcating the position of the draw, is a red ball of two and a half feet diameter, and this is raised to the top of a high mast when the draw is closed and the bridge prepared for the passage of trains. At night the ball, which is an iron frame covered with bright red cloth, is illuminated from within.

On stopping, the Engine man and Conductor of the train must both look for the signal, and the Engine man is not allowed to proceed until the Condutor has satisfied himself that the signal is right and has given the usual signal to start.

When the draw is to be moved from its place, for any purpose, the draw tender's duties are:

First. Unlock the draw.

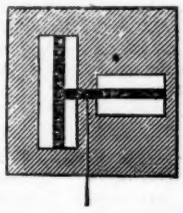
Second. Cast off the halyards from the draw crank, by which the signal is kept in its place at mast head, and lower the signal and place it out of sight in the box made for its reception.

Third. After the signal has been down *three minutes*, then the draw tender will remove the wedges from each end of the draw and turn the draw off, replacing the draw as soon as possible and securing the same by the wedges.

Fourth. The draw tender will then hoist the signal to mast head, and make fast the halyards to the crank by which the draw is moved.

Fifth. Secure the draw by locking it. Each draw tender is required to have two day and two night signals always on hand. As the day signal becomes torn and turned to a darker color by exposure, this is required to be renewed every month.

The care of switches is entrusted only to Station agents and to their appointed switchmen. At gravel pits special switchmen are stationed. No other persons are allowed to change the position of any switch of the road. At every switch a *white* flag by day, or *white* light after sun down, is to be shown for the passage of express or other trains which do not stop. These signals, when shown, must be moved slowly up and down. Enginemen about to pass a switch at high speed must be on the look out for these signals, and if they are not to be seen will whistle to brake up and report the same to the Conductor. The targets of the switches on the New Haven Road are made more conspicuous than is usual on other roads. The following diagram shows the double target, relieved against a large square blackboard.



When the switch is right for the main track, the vertical part of the target is always next to the track.

Interruptions, or obstructions of any nature, caused by the operations of the track repair force, must always be signalled each way at a sufficient distance for the government of approaching trains, and these must run with great caution until such obstructions are passed.

The duties of track repairers are to make frequent and thorough examinations of every cut on their division, and see that all loose rock, bolders, or earth, in any way liable to wash, or fall down upon the track, is removed. They are to take all possible care to prevent cattle from getting upon the track; they must see that the fences are up, and that all doubtful or unguarded points are well watched.

In storms, or immediately after storms, engineers are to run without regard to making time-table time, and will make sure that the way is clear before passing any doubtful point. Track repairers at such times must be out in full force, and guard those points on the road liable to wash, or disturbance of any kind. They will have with them signals and men to stop any approaching train.

The organization of a complete service of enginemen, conductors, draw tenders, station, switch and signal men, repairers, etc., requires great care, for the observance of any system, however perfect it may be of itself.

Without being responsible for individual defaults, which can never be calculated upon until committed, it may be safely said that the present tone of the service of the New York and New Haven Road will compare favorably with that of any other line in the country. The men are experienced and well trained, and believed to be every way temperate and safe; their conduct is regulated by exact discipline, while in the more responsible positions rewards are established for meritorious conduct.

The usual pay is quite as high as on any road similarly situated.

The enginemen, conductors, station agents nor draw tenders are never allowed to absent themselves from duty without the knowledge and consent of the General Superintendent or his Assistant.

Enginemen are never allowed to leave their engines in charge of their firemen, or other persons. No other persons than the regular enginemen and firemen are allowed to ride on the engine. The conductor of the train may ride on the engine if it be necessary.

Smoking, reading or conversation is strictly forbidden on the engine while the train is in motion.

Enginemen receive a bonus of twenty-five dollars per quarter for good conduct. The forfeiture of this bonus is the *least* punishment for any of the following offences.

1. The loss of life or injury to any person on the train, when such life is lost or injury inflicted, by a want of care and attention on the part of the engineman.

2. Running over horses, cattle or vehicles at any of the crossings, or other points on the road, when the greatest care has not been exercised.

3. Running off the track or a switch, if the same could have been prevented, or controlled in any degree, by the engineman.

4. Breaking down of the regular engine or tender of the engineman in charge, if any inspection of his could have prevented it in whole or part.

5. The disregard of any rule or regulation of the company.

Neglect to provide the engines with signals, neglect to have their engine in order, sandbox filled with sand, &c., is also fined by forfeiture of the bonus.

Conductors of trains are held responsible for the prompt action of their brakemen, *and particularly of all new men on their trains.*

Brakemen must always and immediately apply the brakes on signals from the engine, and not let them up until the proper signal is given. In approaching stations the brakemen must stop the train without requiring any signal from the engine. To look out from the platform before applying the brakes, when the alarm signal is given, is made punishable by immediate discharge. Brakemen are not allowed to remain in the cars when the train is in motion, but must always be at their posts, outside.

Neglects of duty have generally been promptly punished, on this road, by discharge.

We have therefore given what may be taken as a full exhibit of the safety system of the NewYork and New Haven road. It must be considered that this road has difficulties to meet, under which the best precautions may sometimes fail. The road is under a great disadvantage in being compelled to run over the Harlem road for 13¼ miles, in 11 miles of which are two tunnels, two temporary bridges of great height, one draw bridge, and

upon which are always the trains of the Harlem Company.

Upon this road the regulations of the New Haven Company have no force, none of their employees acting east of Williams Bridge, except those men engaged on the trains. It is necessary that the best understanding should always exist between the managers and subordinates of the two roads to guard against accident on this portion. The road, also, immediately in the control of the New Haven Company, has the disadvantage of being liable to interruption by six draw bridges, some of which are very unfavorably situated for safe approach. A portion of the distance is as yet run upon a single track, heavy and severe rock cuttings having delayed the extension of the second track. Three of the long bridges are still of the width for a single track. The road has frequent and difficult grades, and many sharp curves. The business of the road is also heavy, and involves much night running.

The equipment of the road is especially safe. The greater part is nearly new and of the best construction, while it is kept in excellent working condition.

With the completion of a line of double track, and a *telegraph*, devoted to the use of the road, there cannot be found another road whose system is more guarded, or which promises greater security to travellers.

American Railroad Journal.

Saturday, January 21, 1854.

Share and Money Market.

The past week has shown but little change in the stock market. Prices continue pretty uniform from day to day and from week to week. All matters here remain in abeyance waiting for news from Europe, which it must be confessed does not present any very discouraging aspect. The fear of a war has become general, and business men are arranging their affairs accordingly, curtailing their operations, relieving themselves of their liabilities, and refusing to incur new ones. Our railroad companies are following this example as fast as the state of their matters will allow. A few months more must show a rapid curtailment of liabilities throughout the country. While such is the case with our railroad enterprizes, and while there is no disposition to engage in new schemes; money is sufficiently abundant in the ordinary channels of business at fair rates. There is no disposition to speculate, and finances of all roads are dull. The prices of premium stocks are barely sustained with an inactive market.

The following Roads have declared Semi-annual Dividends since our last issue: Camden and Amboy 6 per cent.; Cleveland and Pittsburgh 5 per cent; Cleveland and Columbus 5 per cent; New Jersey Railroad 5 per cent. The following are additional reported earnings of Railroads for December.

	1853.	1852.
Cleveland and Pittsburgh	35,330	22,896
Norwich and Worcester	23,837	21,543
Michigan Southern	110,077	60,229
Bellefontaine and Indiana	25,351	

The following is the comparative statement of the condition of the banks in this city for the week ending Jan. 14.

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividend for do.	Price of Shares.
Atlantic and St. Lawrence	Maine.	150	1,538,100	2,973,700	5,150,278	254,743	113,520	none	82
Androscoggin and Kennebec	"	55	809,878	1,016,500	2,064,458	140,561	80,053	none	30
Kennebec and Portland	"	72	952,621	297,80	2,514,067	168,114	100,552	none	41
Port., Saco and Portsmouth	"	51	1,355,500	123,884	1,459,384	208,669	.....	6	96½
York and Cumberland	"	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal	N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	35
Concord	"	35	1,485,000	none.	1,485,000	305,805	141,836	8	107
Cheshire	"	54	2,078,625	720,900	3,002,094	287,768	55,266	5	38
Northern	"	82	3,016,634	.....	.....	328,782	163,075	5	53
Manchester and Lawrence	"	24	717,543	.....	.....	.....	.....	6	89
Nashua and Lowell	"	15	600,000	none.	651,214	132,545	51,513	8	106
Portsmouth and Concord	"	47	.....	.....	1,400,000	.....	.....	none	....
Sullivan	"	26	.....	.....	673,500	.....	.....	none	21
Connecticut and Passumpsic	Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	30
Rutland	"	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	20
Vermont Central	"	117	8,500,000	3,500,000	12,000,000	.....	.....	....	13¾
Vermont and Canada	"	47	1,500,000	.....	1,500,000	Leased to the Vt. C		ent.	98½
Western Vermont	"	51	392,000	700,000	.....	Recently	opened.	none	....
Vermont Valley	"	24	.....	.....	.....	.....	.....	none	....
Boston and Lowell	Mass.	28	1,830,000	.....	1,995,249	388,108	130,881	7	90
Boston and Maine	"	83	4,076,974	150,000	4,092,927	659,001	338,215	7	103½
Boston and Providence	"	53	3,160,390	390,000	3,546,214	469,656	227,434	6	84½
Boston and Worcester	"	69	4,500,000	425,000	4,845,967	758,819	331,296	7	100½
Cape Cod branch	"	28	421,295	171,800	633,906	60,743	30,056	2	40
Connecticut River	"	52	1,591,100	193,500	1,801,946	229,004	72,028	5	55
Eastern	"	75	2,850,000	500,000	3,120,391	488,793	241,017	7	86½
Fall River	"	42	1,050,000	none.	1,050,000	229,445	99,589	8	100
Fitchburg	"	66	3,540,000	112,305	3,623,073	574,574	232,787	6	93½
New Bedford and Taunton	"	20	500,000	none.	520,475	164,230	43,950	7	117
Norfolk County	"	26	547,015	819,743	1,245,927	67,251	23,415	none	68
Old Colony	"	45	1,964,070	282,300	2,293,534	322,213	101,510	none	92
Taunton Branch	"	12	250,000	none.	307,136	137,406	24,399	8	....
Vermont and Massachusetts	"	77	2,140,536	1,001,500	3,203,333	218,679	18,648	none	22½
Worcester and Nashua	"	45	1,134,000	171,210	1,321,945	162,109	66,900	4	58
Western	"	155	5,150,000	5,319,520	9,953,759	1,339,873	683,194	6	97⅛
Stonington	R. I.	50	.....	467,700	.....	240,572	110,892	....	66
Providence and Worcester	"	40	1,457,500	300,000	1,731,498	253,690	139,514	6	95
Canal	Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven	"	72	2,350,000	800,000	3,150,000	639,529	294,269	10	124
Housatonic	"	110	.....	.....	2,500,000	329,041	168,902	none	....
Hartford, Prov. and Fishkill	"	50	.....	.....	In progres	69,629	.....	none	....
New London, Wil. and Palmer	"	66	558,861	800,000	1,511,111	114,410	.....	....	39
New York and New Haven	"	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	99
Naugatuck	"	62	926,000	440,000	.....	.....	.....	8	....
New London and New Haven	"	55	750,500	650,000	1,380,610	Recently	opened.	none	52
Norwich and Worcester	"	54	2,121,110	701,600	2,596,488	267,561	116,965	4	59
Buffalo and New York City	N. Y.	91	900,000	1,550,000	2,550,500	Recently	opened.	none	85
Buffalo, Corning and N. York	"	132	.....	.....	In progres	.....	.....	none	65
Buffalo and State Line	"	69	879,636	872,000	1,921,270	Recently	opened.	....	130
Canandaigua and Niagara F	"	50	.....	.....	In progres	.....	.....	....	....
Canandaigua and Elmira	"	47	425,509	582,400	987,627	76,760	39,360	none	68
Cayuga and Susquehanna	"	35	687,000	400,000	1,070,786	74,241	23,496	none	....
Erie, (New York and Erie)	"	464	10,000,000	24,003,865	33,070,863	4,318,962	1,800,181	7	78
Hudson River	"	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	66¾
Harlem	"	130	4,725,250	977,463	6,102,935	681,445	324,494	5	54
Long Island	"	95	1,875,148	516,246	2,446,391	205,068	44,070	none	30¼
New York Central	"	504	23,085,600	10,773,823	33,859,423	.....	.....	....	113
Ogdensburgh (Northern)	"	118	1,579,969	2,969,760	5,133,834	480,137	195,847	none	32
Oswego and Syracuse	"	35	350,000	201,500	607,803	90,616	43,609	4	70
Plattsburg and Montreal	"	23	174,042	131,000	349,775	Recently	opened.	none	....
Rensselaer and Saratoga	"	25	610,000	25,000	774,495	213,078	96,737	....	....
Rutland and Washington	"	60	850,000	400,000	1,250,000	Recently	opened.	....	....
Saratoga and Washington	"	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland	"	32	237,690	100,000	329,577	Recently	opened.	....	33
Troy and Boston	"	39	430,936	700,000	1,043,357	Recently	opened.	none	....
Watertown and Rome	"	96	1,011,940	650,000	1,693,711	225,152	116,706	8	96
Camden and Amboy	N. J.	65	1,500,000	.....	4,327,492	1,388,385	478,413	10	145
Morris and Essex	"	45	1,022,420	128,000	1,220,325	149,941	79,252	7	....
New Jersey	"	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central	"	63	986,106	1,500,000	2,379,880	260,899	124,740	3	....
Cumberland Valley	Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	....
Erie and North East	"	20	600,000	.....	750,000	Recently	opened.	....	125
Harrisburgh and Lancaster	"	36	830,100	713,227	1,702,523	265,327	106,320	8	52
Philadelphia and Reading	"	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	70¼
Philad., Wilmington and Balt.	"	98	3,850,000	2,403,276	6,813,889	667,785	383,501	5	80

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.		Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equipm't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central	Penn.	250	9,768,155	5,000,000	13,600,000	1,943,827	617,625	....	97½
Philadelphia and Trenton	"	30	....	....	....	....	....	....	....
Pennsylvania Coal Co	"	47	....	....	....	....	....	....	102½
Baltimore and Ohio	Md.	381	9,188,300	9,827,123	19,542,307	1,325,563	615,384	7	56
Washington branch	"	38	1,650,000	....	1,650,000	348,622	216,237	8	....
Baltimore and Susquehanna	"	57	....	....	....	413,673	152,536	....	..
Alexandria and Orange	Va.	65	....	....	In prog.	....	....	....	....
Manassas Gap	"	27	....	....	In prog.	....	....	....	....
Petersburgh	"	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville	"	73	1,372,324	200,000	In prog.	....	....	....	70
Richmond and Petersburgh	"	22	685,000	....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac	"	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side	"	62	1,357,778	640,000	2,106,467	62,762	....	....	....
Virginia Central	"	107	1,400,100	446,036	In prog.	176,485	74,902	none	55
Virginia and Tennessee	"	73	2,650,091	707,958	In prog.	....	....	none	98
Winchester and Potomac	"	32	180,000	120,000	416,532	89,776	....	12	....
Wilmington and Raleigh	N .C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	....
Charlotte and South Carolina	S. C.	110	....	....	....	....	....	....	....
Greenville and Columbia	"	140	1,004,231	300,000	In prog.	....	....	....	....
South Carolina	"	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester	"	....	....	....	In prog.	....	....	....	....
Georgia Central	Ga.	191	3,500,000	418,187	3,465,879	986,074	535,608	8	115
Georgia	"	211	4,000,000	1,214	....	934,424	456,468	7½	....
Macon and Western	"	101	1,214,283	168,000	1,596,283	296,584	153,697	9	100
Muscogee	"	71	....	....	In prog.	....	....	....	....
South Western	"	50	586,887	150,000	743,525	129,395	71,535	8	....
Alabama and Tennessee River	Ala.	55	....	....	In prog.	....	....	....	....
Memphis and Charleston	"	93	776,259	400,000	In prog.	....	....	....	....
Mobile and Ohio	"	33	879,868	....	In prog.	....	....	....	....
Montgomery and West Point	"	88	688,611	....	1,330,960	173,542	76,079	8	....
Southern	Miss.	60	....	....	....	....	....	....	....
East Tennessee and Georgia	Tenn.	80	835,000	541,000	In prog.	....	....	....	....
Nashville and Chattanooga	"	125	2,093,814	850,000	In prog.	....	....	....	....
Covington and Lexington	Ky.	38	1,430,150	900,000	In prog.	....	....	....	70
Frankfort and Lexington	"	29	357,218	....	584,902	87,421	44,250	....	80
Louisville and Frankfort	"	65	....	....	....	....	....	....	....
Maysville and Lexington	"	....	....	....	In prog.	....	....	....	....
Cleveland and Pittsburgh	Ohio.	100	1,239,450	1,371,000	2,963,756	194,429	123,306	6	86
Cleveland and Toledo	"	147	2,000,000	1,600,000	....	....	....	....	91½
Cleveland, and Erie	"	95	....	....	....	....	....	....	....
Cleveland and Columbus	"	135	3,027,000	408,200	3,655,000	777,793	483,454	12	124
Columbus, Piqua and Indiana	"	46	....	....	2,000,000	....	....	....	80
Columbus and Lake Erie	"	61	....	....	....	....	....	....	....
Cincinnati., Ham. and Dayton	"	60	2,100,000	500,000	2,659,653	321,793	200,967	....	106
Cincinnati and Marietta	"	....	....	....	In prog.	....	....	....	72
Dayton and Western	"	40	310,000	550,000	925,000	Recently	opened.	....	80
Dayton and Michigan	"	20	....	....	In prog.	....	....	....	....
Eaton and Hamilton	"	36	....	....	....	....	....	....	60
Greenville and Miami	"	31	....	....	....	....	....	....	....
Hillsboro	"	37	....	....	In prog.	....	....	....	....
Little Miami	"	84	2,370,784	....	2,634,157	526,746	314,670	10	113
Mansfield and Sandusky	"	....	900,000	1,000,000	1,855,000	....	....	....	....
Mad River and Lake Erie	"	167	2,387,200	1,767,000	4,110,148	540,518	113,401	....	95
Ohio Central	"	57	....	....	In prog.	....	....	....	90
Ohio and Mississippi	"	....	....	....	"	....	....	....	87
Ohio and Pennsylvania	"	187	1,750,700	2,450,000	....	Recently	opened.	....	....
Ohio and Indiana	"	....	....	....	In prog.	....	....	....	....
Scioto and Hocking Valley	"	44	750,000	300,000	"	Recently	opened.	....	....
Xenia and Columbus	"	54	1,092,137	119,500	1,257,714	Recently	135,363	15	116
Evansville and Illinois	Ind.	31	....	....	In prog.	237,506	....	....	....
Indiana Central	"	....	....	....	"	....	....	....	90
Indiana Northern	"	131	....	....	"	....	opened.	....	115
Indianapolis and Bellefontaine	"	83	....	....	"	Recently	....	....	....
Lawrenceburg and Ind	"	90	....	....	In prog.	....	....	....	77
Lafayette and Indianapolis	"	62	....	....	....	....	opened.	....	82
Madison and Indianapolis	"	88	1,650,000	750,000	2,400,000	516,414	268,075	10	70
Peru and Indianapolis	"	40	....	....	In prog.	....	....	....	65
Terre Haute and Indianapolis	"	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago	Ill.	....	....	....	....	....	....	....	....
Chicago and Mississippi	"	135	2,400,000	4,000,000	4,600,000	....	....	....	....
Illinois Central	"	....	....	....	....	....	....	....	136
Galena and Chicago	"	92	1,932,361	500,000	In prog.	473,548	286,152	....	122
Michigan Southern	Mich.	315	2,800,000	2,629,000	6,430,246	592,187	293,046	....	117
Michigan Central	"	282	4,856,700	3,977,563	8,618,505	1,145,598	582,816	8	99½
Pacific	Mo.	38	1,000,000	none.	In progres	Recently	opened.	....	....

	Jan. 14.	Jan 7.
Loans	90,010,012	90,138,887
Specie	11,794,453	11,506,121
Circulation	8,668,344	9,075,120
Deposits	58,396,956	60,835,363

Providence and Worcester Railroad.—The following is an abstract of the annual report of the Providence and Worcester Railroad Co.:

Total expenditures for construction and equipment to 30th Nov., 1852, inclusive		$1,731,498 18
Total expenditures for construction and equipment from 1st. Dec., 1852, to the 30th Nov., 1853		74,557 58
Total cost of road and equipments		$1,806,075 76
From which deduct net earnings from Nov. 30, 1852, to Nov. 30, 1853	$120,891 76	
Less interest on funded debt	$16,590 23	
Also, div. declared in 1853	90,225 00 106,815 23	14,076 53
Total cost of road and equipments		$1,791,999 23

Receipts from 30th Nov., 1852, to 30th Nov. 1853, are:

For transportation of passsengers	$147,388 42
For transportation of merchandise	139,286 43
For mail service	2,427 66
For rents	2,315 02
Total	$291,417 53
Expenses	$170,525 77
Net earnings	$120,891 76

Chicago and St. Louis Railroad.

We are gratified to learn that the work upon the Chicago and St. Louis Railroad, the progress of which was interrupted for a short time by pecuniary embarrassment of some of the leading parties connected with it, is again being pushed forward with a renewed energy, sufficient means having been provided for that purpose. The project had merits too great not to secure its construction in any state of the Money Market, and was one of that character which could not be discredited by *pecuniary* difficulties. It is a route which strikes every person as of general, or national importance, and is as coincident with a great line of travel, as is the New York Central, or Michigan Southern, roads, connecting as it does by an almost straight line the cities of Chicago and St. Louis. We presume that no party formerly connected with the road has suffered any great losses, except such as are incident upon delay in a progress of a work of great magnitude.

There has been a change in the management of the company; the following gentlemen having been elected Directors: George Bliss, Springfield, Mass.; Henry Hotchkiss, New Haven, Ct.; and Chas. Gould, Edwin C. Litchfield, and John Cleveland of New York. Mr. Bliss has been chosen President of the Company. The above names will be taken as a good guaranty, for the prompt completion of the road. It is already completed and in operation from Alton on the Mississippi river to Bloomington, 130 miles, and is earning a handsome income upon its cost. The remainder of the line from Bloomington to Joliet on the Rock Island and Chicago Roads, is far advanced, and may be finished at an early day the coming Spring. That por-

tion of the line between Bloomington and Alton already forms a portion of a *straight*, though somewhat circuitous route, between Alton and Chicago, in connection with the Illinois Central Railroad. The through line will shorten the distance as present travelled, some 30 miles.

Little Miami Railroad.

At the annual election of the Directors of this Company the following gentlemen were chosen Directors for the ensuing year; all being members of the old Board, viz:—Jacob Strader, John Kilgour, R. C. Springer, Griffin Taylor, J. H. Groesbeck, Nat. Wright, John Bacon, Wm. McCammon, Abraham Hivling, James Hicks, Jr. Larz Anderson, and Alphonso Taft. We learn, that it is the purpose of the Company to commence the construction of the Lebanon Side Track early in the spring. The road will be let to contractors on the 23d of January.

Pennsylvania.

Lebanon Valley Railroad Company.—At an election of the Stockholders of this Company held on the 9th inst., the following gentlemen were elected to serve for the ensuing year, viz:

President.—Gen. Simon Cameron.

Treasurer & Secretary.—H. H. Muhlenberg.

Directors.—Simon Cameron, John Tucker, Isaac Eckert, Samuel Bell, John W. Killinger, William Streng, Gustavus A. Nicolls.

The Milwaukee and Mississippi Railroad.

The trains on the Milwaukee and Missippi railroad have commenced running to Stoughton, within sixteen miles of Madison, where depots of produce have been for some time established awaiting the arrival of the cars, and the receipts in consequence, may be expected to exhibit an immediate increase.

Anthracite Coal and Iron Ore in Virginia.

The Dora Coal and Iron Manufacturing Company, of Augusta County, Virginia, have discovered specimens of fine anthracite coal upon their property. It is believed to be the only coal of the anthracite character in Virginia. Specimens of Iron ore, also, of a rich quality, have been discovered, and as they have been found to contain a large per centage of carbonate of lime, which is expected to furnish a large proportion of the flux necessary for their manufacture, a large saving in expense is anticipated.

Chicago, Sterling and Mississippi Railroad.

On Thursday, the 15th ult., a meeting of the stockholders of Chicago, Sterling and Mississippi Railroad Company, was held at Aurora, and the following persons unanimously elected Directors: Horatio G. Loomis, Hiram A. Tucker, Chicago; Walter Blanchard, John Collins, Lewis Ellsworth, Aylmer Keith, Henry L. Peaslee, Adiel S. Jones, Willard Scott, Joseph Naper, Davis Hess, Naperville; Edward R. Allen, Wm. H. Hawkins Aurora.

Nashville and Chattanooga Railroad.

The recent election for Directors of this Company resulted as follows: V. K. Stevenson, Alexander Allison, John M. Bass, Jeremiah Cleveland, P. S. Decherd. F. B. Fogg, Lewis Garner, Samuel D. Morgan, John T. Neil, E. H. Ewing, J. B. Knowles, A. M. Rutledge, W. Spence, Thomas Powers, and Jas. A. Whitesides.

The bridge across the Tennessee River, from accounts lately received, must be now fully completed, and cars running uninterruptedly between Nashville, Charleston and Savannah.

Consolidation of Railroads in Indiana.

The stockholders of the Madison and Indianapolis railroad voted recently, almost unanimously, in favor of consolidation with the Peru and Indianapolis railroad. The two roads will constitute one entire line from and after January 1st, 1854, from Madison to Peru, passing through the county seats of Jennings, Bartholomew, Johnson, Marion, Hamilton, Tinton and Howard counties, and terminating in the county town of Miami.

The Peru *Sentinel*, says that a line of good covered spring wagons connect that place with the cars of the Peru and Indianapolis Railroad which run to Kokomo, or within a short distance. Also that the side track from the Canal to the main track of the Peru and Indianapolis Road is finished, and the track layers having come, the laying down of the main track is being pushed vigorously. The locomotive is now engaged at work upon the track.

Genesee and Oakland Railroad.

This road is projected to run from Pontiac to Saginaw, in Michigan. Pontiac is within 25 miles of Detroit, with which it is already connected by a railroad. Pontiac is also the eastern terminus of the proposed Oakland and Ottawa railroad. From here to Saginaw, in a direct line, is about 70 miles. The latter point is the natural harbor of Saginaw Bay, although lying 10 or 15 miles distant on the river of the same name. The country about Saginaw is very productive in the best kinds of pine lumber, a product of great value in the present and prospective trade of Michigan. The distance from Detroit to Saginaw by the railroad will be about 100 miles; time 4 hours; by water 225 to 250 miles, and time, by propellers, from 1 to 1½ days, and by sailing vessels in the lumber trade from 2 to 6 days.

The organization of this road being completed a choice of directors was made at Detroit, on the 7th inst., with the following result:

H. K. Sanger, of Detroit.
David Smart, "
H. H. Brown, "
N. P. Stewart, of Pontiac.
N. W. Clark, of Clarkston.
Enos Goodrich, of Goodrichville.
J. M. Fenton, of Flint.

Jacksonville and Carrollton Railroad.

The organization of a company has been completed for the construction of a railroad between the above named points, the former in Sangamon, the latter in Greene County, Illinois. The length, in a direct line, is about 35 miles. Jacksonville is an important point on the Great Western, Illinois, Railroad, while Carrollton is in the line of trade and travel which may diverge therefrom, destined for Alton and St. Louis.

The route lies nearly parallel with, and at an average distance of 15 miles from the Illinois River, traversing a country of great fertility, and whose productions and general business must naturally be attracted to St. Louis. This road promises to be a judicious and profitable investment.

The officers are—Judge D. M. Woodson, of Greene County, President, and Geo. T. Brown, of Alton, Secretary. A preliminary survey has been commenced by Joseph T. Hunt, Esq., late Chief Engineer of the Terre Haute and Alton railroad company.

Syracuse and Binghamton Railroad.

The objects of the above road are *two* fold—to supply Railroad accommodations to an important section of the State, now without such, and to open an avenue from the Coal fields of Pennsylvania to Central New York and Lake Ontario.

We have taken frequent occasions to refer to the above as one of the most promising of our new works. It traverses a rich and densely settled agricultural district, destitute of Railroads, so that it must command *all* the business of the section of country traversed. In addition, it runs in such a direction that it cannot affect injuriously *any* other road, while its opening must prove most advantageous to *connecting* lines.

The length of the road will be 80 miles. Its total estimated cost is as follows:

Grading, Masonry and Bridging.....	625,427 27
Superstructure, (including Iron).....	677,050 00
Equipment.....	236,600 00
Depots, etc.....	60,000 00
Land, Land Surveys and Fencing....	176,000 00
Engineering and Agencies.....	40,000 00
Total.....	$1,809,077 27

Or about $22,500 per mile.

There has been expended upon the work $509,732 88. The work of graduation upon *all* the lighter part of the line has been completed, and such progress has been made with the heavy sections as to leave no doubt that the whole road will be in readiness for the rails by the opening of spring. There is probably no route for a Railroad in the State, of equal length, more favorable for the construction of a Railroad.

The local capital that is subscribed already amounts to $823,000, a large portion of which has been paid in and expended on the road. This subscription is of the best kind, and very nearly the whole amount will be called in, before the *credit* of the Company is resorted to. It is believed that the entire graduation of the road made will be completed from assessments on *Stocks*, leaving the money to be raised on *Bonds*, to be applied to the superstruction and equipment.

To raise the necessary sum for these objects the Company propose to issue a first and only mortgage upon their road, to the amount of $1,000,000. Such further demands as may arise, can be provided for by additional subscriptions of *Stock*.

The road as before stated, will traverse one of the best portions of the State of New York, and will not have any portion of its appropriate business competed for by a rival work, either Railroad or Canal. This district is capable of supplying a lucrative traffic to a Railroad. There is no portion of the State devoted to agriculture, more densely settled, nor possessing greater resources. In addition, there is no road in the State that has the prospect of an equally *through* tonnage. One leading object is that the road was to reach the Coal field of Pennsylvania for the purpose of supplying the indispensible article of *fuel* to the cities of Syracuse and Oswego, and to the shipping on the Lakes. Syracuse has a population of nearly 30,000, and is the great seat of the manufacture of Salt, in the interior. Her Salt works now consume over 300,000 cords of wood per annum. This immense consumption diminished the supply, and increased the price, to such an extent as to threaten a rapid reduction in the amount of salt produced, unless a new source of supply of *fuel* is obtained, which can only be had from the coal mines of northern

Pennsylvania. To reach this coal was one great reason for undertaking this work. In addition to the demand for the Salt works, a very large amount of coal is wanted in that city for the ordinary purposes of consumption.

A still wider market for the article would probably be at Oswego. This is the great Port of Lake Ontario, and no town in the country is rising faster in importance, or whose commerce is increasing more rapidly. The city contains 15,000 inhabitants, the wants of which would require a large amount of *coal*. The introduction of coal upon Lake Ontario would lead to its immediate use by every variety of steam craft navigating the Lake; and by the numerous thriving cities upon its shores, in Canada as well as in this State.

In addition to the local importance of the above works, and as an avenue between the Coal fields, Syracuse, and Lake Ontario, the above road cannot fail to become a part of a most important *through* route between the Great Lakes and New York.—In connection with other roads now in progress or operation it will form a continuous line of unbroken gauge, between the Great Lakes and New York. From Binghamton a road is already in operation to Scranton, the centre of the northern Coal field. From Scranton to New York, a Railroad upon the wide gauge is in progress. Upon the completion of the line from Oswego to Scranton, a distance of 177 miles, the coal car can always have a return freight, carrying full loads both ways, which would either reduce the cost of transportation to a low figure, or would add largely to the receipts of the roads. To show the magnitude of the Lake imports at Oswego we give the importations of a few leading articles into that place for the past three years:

	1851	1852	1853
Bbls Flour....	272,343	389,929	275,105
Bush Wheat...	4,231,899	6,525,309	4,353,699
Feet of lumber,	83,823,417	98,144,855	119,762,233

All the above articles are taken to New York.—A Railroad capable of transporting at cheap rates would command a very considerable amount of the above freight, particularly such as would be moved in the winter months. The distance between Oswego and New York over the above route would be some 30 miles shorter than by any other line. On the whole, we know of no line of road occupying a better route for a lucrative traffic, and hardly any more important to the interests of the country.

In another number, we shall give a portion of the recent report of the Company.

Chicago and Rock Island Railroad.

Messrs. Sheffield and Farnham have completed another link in the Chicago and Rock Island Railroad, and the cars are now running to Genesee, 156 miles from Chicago. The rails have to be laid on only 23 miles more, when the road will be completed.

Bellefontaine and Indiana Railroad.

The net earnings of the Bellefontaine and Indiana Railroad Co., (in Ohio), for the year ending the 1st November, 1853, after paying the interest on her debt, amounts to 8 per cent. on the capital stock. This road was not completed through from Gallion to the Indiana State line, 118 miles, until the 1st March last. There has been a steady increase in the monthly receipts, which will no doubt continue.

Improvements in Communication by Highways.

By Zerah Colburn.

The necessities of business and social intercourse have created various means of communication. Upon the land, railroads, highways and canals for *matter*, and the telegraph for *thought*, are among the facilities in our reach. Railroads afford the most expeditious, and at their working velotial capacity, the most economical application of locomotive power. Railroads, however, require a concentration of business for their creation and support; they are the product of society and not of the individual. They are in all cases the *trunks* of which common highways are the *branches*, and so long as railroads are used so long will highways be occupied in both the primary and the ultimate stages of transportation. However important the movement effected upon the railroad, it can be only *intermediate*, the traffic being *supplied* and *distributed* by the common highway. Railroads may occupy the route and supplant the business of *coincident* highways, but *lateral* roads will be built, of an extent more than sufficient to restore the relation previously existing.

The engrossing interests of our railways, almost precludes a calm comparison between them and the ordinary carriage roads of our country; but so soon as we perceive the principle by which the latter must always exceed, in extent, the former, we cannot fail to be impressed with the importance of any improvement, having for its object the application of the most efficient and economical power on highways.

We must look upon the railway and the highway systems of the country as mutually dependent;—neither can supplant the other.

The object of the railway and of the highway is the same,—to facilitate carriage. The former, requiring greater economy to develope its value, has been made operable by inanimate power. The latter is still worked in the most primitive manner. There has been no important application of industry, or process of production, in which the service of inanimate power has not been sought. Travelling by highway remains, however, essentially the same, as at the invention of carriages. Animals still furnish the locomotive power. Without regard to the purpose of its *application*, the *quality* of power sought in modern times, is in all other cases inanimate; involving less first cost, less subsequent depreciation and expense of maintenance; being more efficient, more controllable, less in opposition to the impulses of humanity and affording employment to a higher grade of labor

We must therefore apply steam power to common roads, not that such application of power is as economical as upon a railroad, it being but about one-eighth as efficient at the best, but that common roads must exist by the very existence of railroads; and that they must also be worked *with some power*, and that steam power is better, for every reason, than any other.

There were many reasons which prevented the adoption of the early steam carriages. The motive for the use of steam carriages was different then from what it would be now. The contest was then between the *railroad*, operated by *horse* or *stationary* engine power, and the *highway* operated by *steam* power. The steam carriage had been tried, well matured, and had become successful, when modern railroad locomotives existed only as a *suggestion*. The fortunate idea which afterward determined the application of steam to the railway, and the gigantic enterprise offered in its development, the latter not yet completed, arrested at once all further efforts in the introduction of steam upon highways. The results given by the use of steam on railways induced a belief that *such* was soon to be the universal means of locomotion upon the land. The necessary relation between the two systems was forgotten. The engineering energy and financial patronage of the country sought only one channel.

There were other reasons which kept steam carriages from general use. While the locomotive was provided with its appropriate track, the one being made expressly for the other, the steam carriage could only run upon the public thoroughfares, already occupied by the ordinary means of conveyance, and in the success of which the proprietors of turnpikes were immediately interested. Hence prohibitory tolls were imposed upon the intrusive steamers, and it soon became a question with their owners, not if they would prove practicable, but if they would become profitable. The influence opposed to them soon settled that point, and established the fact, not that they *could not*, but that they *should not pay*.

We have already said that steam carriages proved successfull as a mechanical application. While the question was debating whether steam locomotives or stationary engines should be adopted for the Liverpool and Manchester railroad (the pioneer in English railroad enterprise) there had been built a large number of steam carriages; and by the time the "Rocket" had proved its capacity for speed at 22 miles per hour, on the railroad, steam had been used on common roads at speeds of *thirty miles per hour*. In 1829, Goldsworthy Gurney had gone from London to Bath with his steam carriage, and in returning made a distance of 84 miles, including several stops, in ten hours. He afterwards made from twenty to thirty miles per hour, while Summers and Ogle's carriage, built soon after, was run over portions of the distance between London and Southampton at a speed of from thirty two to thirty five miles per hour.

In the third volume of the Executive Documents of the 22d Congress is given a reprint of the evidence upon steam carriages, given in to a select Committee of the British House of Commons, and first published Oct. 12th 1831. Most of the inventors and proprietors of steam carriages were examined before this committee, in the summer of 1831, besides a number of prominent engineers, whose opinions were asked as to the ultimate value of such modes of conveyance, and especially as to their effect upon highways.

Not wishing to base any estimation of what may yet be done upon the achievements of a period so long passed, we should not have alluded to this document in any terms, but for the fact that it contains reliable information upon the point, important to succeeding experimentalists, and such as is not generally accessible.

At the time of the examination by the select committee, Gurney, Hancock, Summers and Ogle, and James Stone, the latter now of New York City, had operated steam carriages upon high-

ways. All of these men contended against the greatest of difficulties. Discriminating and burdensome tolls had been placed by the turnpike proprietors upon the passage of all steam carriages, a disposition being evinced to obstruct their success; while a wide misapprehension existed as to their effect on roads. To these were added the great expense of such trials, undertaken by men looking solely to their own interests, and who were not theorists, attempting the perfection of ingenious models. And what was worse, the absence of those guides, which experience had given to other branches of engineering, was an ever present difficulty, requiring repeated and costly trials for the determination of each proportion and arrangement.

The results elicited were that carriages of from 53 to 80 cwt. had been built; that each 10 cwt. was equal to one horse power, while in some cases with better arrangement and construction, 5 cwt. yielded the same power; that the boilers were safe from explosion, the machinery safe from fracture, the engine not liable to frighten horses, being free from smoke and having no escaping steam. That a speed of ten to twelve miles per hour was an ordinary performance, while Summers and Ogle's carriage had gone at a slow speed, up a hill of 1 in 6, and 24½ miles per hour, loaded with passengers, over the London road. The same engine had gone, with 19 passengers, up a hill of 1 in 12, at 15 miles per hour. It had gone 4⅞ consecutive miles on a level in 9 minutes, or at thirty miles an hour.

These engines could be stopped, when going at eight miles per hour, within 21 feet. Hancock's carriage could turn around, on the inner circle of only 4 feet diameter, or could turn from one street to another at right angles, and each of ten feet width, at six miles per hour.

It was proved that there was no slipping of the wheels at 22 miles an hour.

McNeil, McAdam and Telford, all eminent road engineers, agreed that the wear produced by horses' feet was much greater than that by the wheels of wagons. One estimate of the proportionate wear by wheels and horses' feet was 1 to 8 on common roads, and 1 to 7 on the London pavements.

With such results actually attained during periods of several months, and in some cases for one to two years, there could be no doubt of the practicability of steam carriages. As to their economy it was estimated that they could save two-fifths in first cost, and in wear and tear, over horses doing the same work, and five-sixths of the expense of feed and attendance.

Independent of these results, which have been given merely to replace them on record, the question of the adaptation of steam to good common roads, appears of easy solution.

The power that usurps the place of animals, in mills, in mines, and on *railroads*, ought to do so with the same economy on common roads. The crowded streets of our cities give the best test of such a plan. The objections to *tracks*, being very serious where these are laid through streets occupied by carriages of nearly all kinds, and the bulk, danger, noise and expense of horse omnibusses, would be essentially reduced by the substitution of a good system of steam carriages.

In connection with this subject it may be said that J. K. Fisher of New York, has on exhibition at the Crystal Palace, a working steam carriage of about 1200 lbs. weight and of the power of four horses. Besides some improvements in the details of the engine, such as would be equally applicable to other steam engines, Mr. Fisher's general plan of carriage and connection of engine thereto, contains some very decided improvements over anything that has been devised heretofore. The elongation of the wheel base of the engine gives greater facility for steering; the connection of the piston rod with the crank through an intermediate crank upon a separate cross shaft, the intermediate cranks being connected like two pairs of driving wheels, reduces materially the oscillating motion of the carriage at high speeds. The "outside connection" also removes obvious difficulties in the way of the success of former carriages, inasmuch as the weight and breakage of crank shafts is avoided.

The great inducement to the use of horses is in the employment of their value. The animal servitude is sustained for the same reason that human bondage exists; it is a matter of property, which, except it be employed, will depreciate in value, and entail loss upon the owners. Those already identified with the horse coach interest oppose the introduction of steam as likely to injure the value of their property. While those interested only in *roads* must naturally feel an interest in the success of their *patrons*.

There will be no difficulty in a supply of educated labor, appropriate to the operation of steam coaches. The trumphs of steam have always enlisted and instructed recruits. When it was demonstrated that cotton could be manufactured by machinery, a community of mere laborers became a community of manufacturers. When steam was applied to navigation engineers became as plenty as sailors. There has been no improved application of physical means to physical ends which has been long retarded from being beyond the capacity of the age to develope.

Pacific Railroad.

Governor Stevens' Route.—We copy from the *Washington Union* the following letter, from Governor Stevens, to a friend in Washington:—

OLYMPIA, Dec. 5, 1853.

"After a long and arduous journey across the country, my party has at length reached Fort Vancouver in good health and spirits, having made a thorough survey of the route, and being convinced of its entire practicability. Our success has been greater than we anticipated. The country throughout is well wooded and watered, and admirably adapted to settlement and cultivation. I furnishes inexhaustible supplies of wood and stone for building materials. The rivers and streams are such as can be easily bridged. In each of the mountain ranges we have discovered two passes, presenting no serious obstructions, and through which a railroad can easily be conducted. The amount of tunnelling is small, not probably exceeding in the whole route two miles. No untoward accident has occured during the whole journey to interrupt or throw a shade over our labors.

"Besides these important results, much interesting and valuable information has been gathered in relation to the Indian tribes, and the geological features of the country, which will appear in the detailed report of the operations of the survey.

"This report, however, I shall not be able to prepare in time to reach Washington by the 1st of February. I shall send by the mail to-day, to the Secretary of War, a report of our operations since leaving Fort Benton, which in connection with the reports made previous to that time, will I hope be sufficient for the purposes of Congress until a detailed report can be furnished.

Yours, &c.,
ISAAC P. STEVENS.

The above letter shows that one good route for a Railroad to the Pacific exists; "well wooded and watered, and admirably adapted to settlement and cultivation *throughout*," with easy passes through the mountains; advantages which are not even claimed for the other roads proposed.

Our conviction is that before three years have elapsed, the *right* to construct a Railroad over the northern route, unaccompanied by any particular privileges, will be regarded as the most valuable gift the Government can bestow.

Pacific Railroad.

We give the following correspondence, which has taken place between Mr. Chatfield, President of the Atlantic and Pacific Railroad, and Mr. Bartlett, of the Mexican Boundary Survey.

SIR:—Your duties as Commissioner on the part of the United States, for running the boundary between this country and Mexico, carried you over the route between El Paso on the Rio Grande and San Diego on the Pacific. You also traversed considerable portions of the northerly part of Texas. Will you oblige me by stating your opinion of the practicability of this route for a railroad from the Mississippi to the Pacific?

Very respectfully, yours,
LEVI S. CHATFIELD,
President A. & P. R. R. Co.

JOHN R. BARTLETT, Esq., &c., &c.

NEW YORK. Dec. 21st. 1853.

LEVI S. CHATFIELD, ESQ.,
President of the Atlantic and Pacific R. R. Co.

SIR,—Your note asking me to state to you the result of my observations as to the practicability of the route between El Paso on the Rio Grande and the Pacific, for the construction of a Railroad has been received. In reply I beg to make the following statement:

During my connection with the survey of the Mexican Boundary, as Commissioner, my duties led me at various times across the district west of the Rio Grande, embraced between the parallels of 31 and 32 deg. 40 min. North latitude, within which is a belt of country, the geographical features of which have never been properly made known. This region had never been traversed by any scientific party before it was explored by the U. S. Boundary Commission, and the result, as I shall show, will have a most important bearing on the question of the most favorable route for a great national railway from the Atlantic to the Pacific.

Until recently, the maps of the interior portion of our continent have exhibited the great chain known as the Rocky Mountains as continuous from a high northern latitude to the Isthmus of Panama; thereby presenting a barrier to the construction of a great public highway, whether for a wagon road or a railway, except through a few well known passes. But such does not convey an accurate idea of the geographical features of this region.

These mountains exhibit the character given them by travellers, except between the parallels of 31 deg. 20 min. and 32 deg. 32 min. north latitude, where they do not appear. Both to the north and south of this district, they rise up in elevated peaks, separated by narrow and intricate valleys, forming an almost continuous chain.

About the parallel of 32 deg. 32 min. the Rocky Mountains suddenly drop off about eight miles south of the Copper Mines of New Mexico, (now Fort Webster,) and, with the exception of a few spurs, seem to disappear entirely. Here we emerge into the great plateau or table-land, which, with scarcely an interruption, extends more than a thousand miles to the south. The elevation of

this plateau varies from 4000 to 5000 feet above the level of the sea, and is crossed by no continuous range of mountains for the distance stated. Short isolated mountains and hills, alone appear at intervals, and these are sometimes separated by fifty or a hundred miles of plain. Through the State of Chihuahua this pleateau is limited on the west by the Sierra Madre, but on the east it crosses the Rio Grande and extends across the northern portion of Texas.

The great mountain chain which so abruptly terminates near the Copper Mines as stated, again begins to appear in about the parallel of 31 deg. 20 min., a few miles north of the Guadalupe Pass, through which runs Colonel Cook's road. The range is here called the Sierra Madre, and forms an almost unbroken chain through the entire length of Mexico. Within fifty miles to the south there is another pass for mules, but beyond this, none for more than 500 miles.

Guadalupe Pass, which I have been through three times on foot, and each time taken a bird's-eye view from the most elevated peaks, is through and across a spur of the Sierra Madre, the termination of which is within ten miles to the north.—From this spur, the country is open to the mountains which encompass the Gila, as well as to the line where the Rocky Mountains terminate near the Copper Mines.

The Gila is closely hemmed in by elevated mountains for about one-half its length; or to a point about 50 miles below the mouth of the San Pedro river. Some of these mountains extend ten or more miles into the plain, so that it is an absolute impossibility to construct a highway near that river.

The district or belt of country which lies between the northern spur of the Sierra Madre, and the southern spurs of the Rocky Mountains, may be safely set down at from 80 to 100 miles in width, and extends entirely across the continent from the Rio Grande to the coast range of mountains on the Pacific. In it are no continuous chains of mountains, such as will present an impassable, or even a serious barrier to the construction of a railway. This plain is crossed at intervals of from 15 to 30 miles with short and isolated ridges of mountains, having an elevation of from 1000 to 2000 feet above the plain, and running from north-west to south-east. These mountains when seen at a distance, appear like a continuous chain, but on approaching them, they are found to be in short ridges from five to ten miles in length, overlapping each other, with broad defiles or open spaces between, and affording easy passages through.

In my journey west from the Rio Grande, with a train of heavily laden wagons and pack-mules, I travelled more than 30 miles a day across this district, near the parallel of 32 deg. 22 min., without locking the wheels of my wagons. This, too, where there was no road. Every mountain range was passed through without difficulty, and in some instances, so gradual was the ascent and descent, that it was scarcely perceptible. I have also traversed the district, or have seen it from eminences over which the 32d parrallel would pass, for about three hundred miles west of the Rio Grande.

The first barrier of consequence, of which I cannot speak with certainty, is a range of mountains beyond the San Pedro river, bounding the Santa Cruz valley on the east. They terminate in latitude 31 deg. 15 min. where I passed them. Between 32 deg. and 32 deg. 22 min. they are passed by wagons, but I cannot state with what facility. But if they can be passed any where between the 32d parallel and the Gila the last obstacle is overcome to reach the plateau near that river. It would be desirable to find an opening to the Tucson Desert, when we reach an open level plain from 100 to 120 miles across, to the river mentioned.—In fact, it may be asserted that when the San Pedro Mountains are passed, we shall have an uninterrupted plain of about 250 miles to the Colorado.

It will thus appear, that the entire district from the Rio Grande to the Colorado, which may be put in round numbers at 500 miles, consists of broad, open gravelly plains, from 15 to 25 miles in width, with scarcely an undulation, and for long distances, requiring but slight excavations and embankments; nature having already graded them. The mountains may be passed through open defiles of easy ascent and descent. When the Gila is reached, the bottom, or the table-land may be followed, though the latter will doubtless have the preference, as it presents a perfectly hard and level surface. In a few instances, ranges of mountains approach the bottom land of the Gila. Openings may doubtless be found through these, or they may be passed by cutting away near the river.

The Colorado river presents no difficulties for bridging. At Fort Yuma, where the Gila joins it, it is about 600 feet wide, but above and below the junction it expands to 800 and 1200 feet. In dry seasons there is between 4 and 5 feet of water at Fort Yuma.

After this river is passed, we reach the great California Desert about one huudred miles across, which increases in width towards the north. This is destitute of wood, water and grass, and presents a hard level surface with slight undulations, and seems almost graded by nature for a railway.—After leaving the bottom, or valley of the Colorado, and before the table-land, or desert is reached, there is a belt of moving sand. Its southern extremity is now about 12 miles below Fort Yuma, where I passed it without crossing it. Its breadth I could not ascertain, never having seen any one who had crossed it, though it was supposed to be from 3 to 5 miles in breadth. Nor could I learn how far it extended up the Colorado. This is the only belt of moving sand that I know of within the district referred to, west of the Rio Grande.

On passing this desert we reach the Sierra Nevada, where a pass must be sought; but I have no doubt that several may be found, which will be practicable. The object should be to seek one that will take us to the streams which lead to the San Joachin; for, when this is reached, we shall be in one of the most luxuriant valleys in the world, with an uninterrupted course to the future metropolis of the Pacific world.

All the great plains, plateaus and deserts to which I have alluded, are without wood. They are also nearly destitute of water and grass. Water is found at long intervals, though experience has shown me that it may be found at a short distance below the surface, in particular spots, even on the most arid deserts.

Pine timber abounds in the regions of the Copper Mines, in latitude 32 deg. 35 min., together with small oaks and cedars. Other mountain ranges on the route are similarly wooded, and there are some valleys thickly covered with mezquit.—But I will not undertake to point out the localities of the wood and water, the arable and the grazing lands, the fertile valleys and the deserts, I have noted all these in my diary, and, to be understood, should be accompanied by maps and drawings.

I have besides a large number of sketches and drawings, taken in the field, exhibting the characteristic features of the country from the Rio Grande to the Pacific, the various mountain passes, the plains, the deserts, the wooded regions, etc., etc., which convey a better idea of the country in quession than any written description.

My notes also extend across the northern portion of Texas, near the parallel of 32 deg., for the distance of five hundred miles, on which country I possess the same information as on that west of the Rio Grande, and will only remark that it is quite practicable for the purposes of a railway.

I have omitted to speak of the capacities of the Colorado and Gila rivers, to which you call my attention. The former, although it has from 4 to 5 feet of water near the junction when lowest, is somewhat obstructed by sand-bars towards its mouth; but I have no doubt that steamers with a light draught of water, may ascend the greater portion of the year, even for a distance an hundred miles above Fort Yuma. The Gila can never be navigated except in time of floods or high water, when flat bottomed boats might possibly pass up to the Salinas, 180 miles above its mouth.—Supplies might be sent, as it is now proposed to supply Fort Yuma, by sailing vessels to the head of the Gulf of California, and thence by a small steamer up the Colorado.

I have spoken of desert, woodless plains on the line near the parallel of 32 deg. It is proper to remark that any route south of the parallel of 34 deg. 30 min. must cross the great *Llano Estacado*, east of the Rocky Mountains which increases much in width above the 32d parallel. I crossed it about 31 deg. 30 min., or from the head waters of the Concho to the Horse Head crossing on the Pecos, a distance of 70 miles without water; but a degree farther north its width is more than doubled. Then the region between the Pecos and the Rio Grande is equally barren, (as far as known) and must also be crossed by any route south of the 34th parallel.

So with the great California desert west of the Colorado; all routes south of the 36th parallel must cross this, even though the Mohavi river be followed, unless the explorations now being made should discover some valley or stream not yet known.

In conclusion I should state, that to take the route south of the Gila, we must pass through Mexican territory; although the portion necessary to reach the Gila is much less than it is generally supposed will be required. No line claimed by any one for the boundary would give us a route here, since it is found that we cannot approach the Gila for half its length, Even had the line struck the San Pedro, we have more than a hundred miles of mountainous region to traverse to reach the open plateau near the Gila.

My opinion, from what I heard from the Mexicans, and what I myself saw on the ground is, that the pass through the San Pedro mountains lies north of 32 deg. 22 min. Should this supposition prove correct, we require but a small strip from Mexico, and this strip of a worthless character for agricultural purposes, to give us a route south of the Gila.

I beg leave to add a few more words in support of what I have said of this route. It is an extract from the official report of Lieutenant Whipple, who made the survey of the Gila: "From what precedes," says Lieut. W. "it may be inferred that it would hardly be practicable to construct a road, canal, or railway to run wholly upon the river Gila. The canon of the Pinal Lleno mountains is a complete barrier. The pass below the junction of the San Pedro is equally impracticable. Between the Pimo settlements and the junction of the Gila with the Colorado, nature imposes no serious obstacle to the construction of a way of communication such as the travelling public may demand. But from the Pimo village to the Rio del Norte, I know of no practicable route, even for a wagon road, except by entering the State of Sonora to avoid the Pinal Lleno Mountains."

I am very respectfully,
your obd't. serv't.
JOHN R. BARTLETT.

Suspended Track Scales for weighing Cars and Freight.

At the Galena and Chicago Union Railroad Freight Depot, in Chicago, a set of Fairbank's scales is being placed in the track within the building, so that cars and their contents can be weighed together; and the beam will navigate from five lbs. to thirty tons. It was impossible to procure sufficient depth under the track for the necessary combination of levers and bearings, without being troubled with water in the vault; Mr. B. H. Chatbourne, the enterprizing agent of the manufacturers, has therefore undertaken to construct the scales in the following method: The platform upon which the car runs is suspended by heavy iron rods passing up to the second floor of the building where the requisite space is easily afforded. Another rod forms the required connection to have the weighing beam upon the lower floor. The work is now so far completed that the success of the arrangement is beyond question.

American Geographical Society. Pacific Railroad.

At a recent meeting of the American Geographical Society, Messrs. Poor, Russell, Waddell, Leavitt, and Smith, were appointed a committee to take measures to prepare a *map* of that portion of the country embracing the several proposed routes for Railroads to the Pacific. We are able to state that said Committee have acted promptly in the matter, and already have such a map in preparation. It is to be drawn to a scale of 6 inches to the degree, and will embrace a section of the Continent, extending from Ocean to Ocean and from the south shore of Hudson's Bay, to the mouth of the Rio Grande. It will be about 25 feet long and 18 wide. It is intended to show, as far as possible, the topography, flora, climate, hydrography, minerals, particularly the coal measures, varieties of soil, etc., etc., of the country, and the relations that the several lines bear to the routes and interest of the commerce of the Eastern States.

At the same meeting, the Society adopted a report instructing a committee to memorialize Congress upon the expediency of taking some steps towards securing a uniform system of *Weights* and *Measures* throughout the Commercial World.—Another Committee was also appointed to devise a more perfect system for taking the next census of this State.

Cincinnati and Chicago Railroad.

Important Railroad Connections.—The Cincinnati, Hamilton and Dayton, the Eaton and Hamilton, the Richmond and Miami, the Cincinnati, Logansport and Chicago, and the Logansport and Chicago Railway Companies, have associated themselves in a permanent connection making one line of uniform gauge from this city to Chicago.—The road is now finished to New Castle, 100 miles, and is doing an excellent business both in passengers and freight. The balance of the line from New Castle to Logansport, 80 miles, requires an expenditure of one hundred thousand dollars to prepare it for the iron.—The portion between Logansport and Kokomo, the crossing of the Peru road, 22 miles, is entirely finished with the ties on the road bed, ready for the iron, which is now lying at Toledo, awaiting the opening of the canal in the spring.

The line from Logansport to Chicago is in efficient hands, and is being pressed forward with an energy which will soon open a direct route to Chicago. The distance, 276 miles, can be run ordinarily in nine hours, but from the low grades, freedom from curves, and long levels, one of which is 72 miles, the line can be run ordinarily in seven hours. By reference to the map of Indiana, it will be seen that New Castle lies in a direct line between this city and the south-western extremity of Lake Michigan, and that the route of this line of road is as direct as possible, indeed we understand, that the exact length of the road between New Castle and Chicago, 180 miles, is but 3 or 4 miles longer than an air line from New Castle to that city. The line deviates from a direct one, owing to the very rough character of the country between New Castle and Cincinnati, and passes through Richmond, Eaton and Hamilton, so as to follow the valleys in descending from the table lands to the valley of Ohio.

Considering the vast amount of freight that must pass over this line of road, we are satisfied that a better approach to our city could scarcely be secured than is afforded by such favorable descending grades. This freedom from curves, and entire absence of any short ones, the unusually low grades, and the fact that a considerable portion (27 miles) of the distance, is to be laid immediately with a double track will cause this line to be the shortest, even in time, between this city and New Castle; and between the two extremes, Cincinnati and Chicago, it is so far better and shorther than any other, as to fear no competition.—*Cin. Railroad Record.*

Journal of Railroad Law.

RAILROAD INJURIES IN CONNECTION WITH SURGICAL MALPRACTICE.

The Milwaukee Sentinel of the 6th instant reports the verdict of the jury in the case of *Silkman vs. Davis and Moone* in the U. S. District Court. The plaintiff is a merchant of this City and the defendants are proprietors of a line of stage coaches in one of which the plaintiff was injured in 1850 by being upset at Vernon, Wis. A verdict was rendered for plaintiff in the sum of $6,400. The Sentinel understands that an unsuccessful attempt was made at the trial to reduce the amount of damages claimed by the plaintiff, on the ground that his injury was increased by the unskilful treatment which he received from his surgeon. It is no wonder that such a ground of defense proved unavailing. For it is to be presumed that a man in want of surgical attention will procure the best in his power. If the surgeon employed proves unskilful, as must of necessity sometimes happen, the damage which he inflicts is a direct consequence of the patient's original disaster. The malpractice of the surgeon instead of lessening enhances the patient's legal claim for damages.

Yet true it is that in estimating the actual amount of damages to which an injured party is legally entitled to claim at the hands of a jury, the *remote* and *contingent* consequences of the original injury must be excluded from consideration.

The only damages for which a party can legally claim compensation from a wrong-doer are those which flow beyond all question from the original injury. As, for example, in the case, above supposed, the injured party would not have needed a surgeon if he had not been hurt; hence the unskilful surgery resulted from the hurt.

One of the grounds of recovery often relied on in the case of personal injuries is the loss sustained in respect to the *business* of the party aggrieved. And in this case a strong effort is sometimes made to introduce as evidence for the claimant the hypothetical *opinions* of witnesses as to the detriment suffered. Sympathy and friendship sometimes clothe mere shadowy chances in a garb of reality. But these fancies will not form a legal foundation for a verdict. The mere *opinions* of witnesses as to the loss sustained by an aggrieved party in respect to his business are not admissible evidence. The nature of the plaintiff's business should be shown, its extent, and the importance of his personal superintendence in conducting it. From these premises the jury are to infer the probable loss of profits sustained. Under such circumstances the damage is less a matter of opinion than of computation.

But although in estimating damages a jury must base their conclusions upon established facts, yet they are not always rigidly chained down to the consideration of what actually exists and operates. Where the immediate injury, for example, is the breaking of a leg, a witness may be examined in an action for damages, as to the then and probably *future* condition of the limb. Otherwise the aggrieved party could not obtain compensation without bringing a series of actions, a result which is wholly at war with the genius of the Common law. If a fracture will probably cause life-long lameness, the jury should know this and should award an aggregate of damages meet for the occasion.

The physical consequences of bodily injuries can be prognosticated by men of science with reasonable certainty. Not so in respect to matters dependent on human will. Nature is uniform but man's will is capricious and changeable. Hence in estimating damage a jury would not be justified in relying upon the probable future acts of an individual. It would not be right to give a party enhanced damages in view of the probability that his case would be carried into a higher Court and new Counsel fees and expenses there be required.

Yet Courts abstain carefully from interfering with verdicts unless they are so large or so small as to force on every mind familiar with the case, the conviction that the Jury have erred.

See for authorities sustaining these positions *Lincoln vs. Sar. and S. R. R. Co.* 23 *Wend.* 425. *Collins vs. A. and S. R. R. Com.* 12. *Barb.* 492.

Bellefontaine and Indiana Railroad.

MARION, Ohio, Jan. 12, 1854.

Mr. Editor: An election was held yesterday in this place, for officers for the present year, when the following gentlemen were elected:

James H. Godman, President.
Levi Houston, of Houston,
John Mills, of Sidney,
Orren Patten, of Marion,
Wm. A. Otis, Cleveland,
T. P. Handy, do.

At a meeting of the Board, James H. Godman, was re-elected President; N. Townsend, Secretary; and W. W. Conklin, Treasurer. The other officers, are J. Nottingham, Superintendent, and Charles Sellers, Superintendent of motive power and Master Machinist; W. Milnor Roberts, Chief Engineer; J. P. Harper, Resident Engineer.

No change has been made in the Board, except that T. P. Handy was elected to fill the vacancy occasioned by the death of Wm. L. Kendrick, which occurred on the 3d inst.

Mr. Kendrick had been associated with the road from its commencement, and at his decease, was the Secretary and Treasurer.

The reports of the Chief Engineer and Superintendents, were read, and will be published as soon as the late Treasurer's accounts are settled.

Mr. Nottingham reports the receipts for the month of December, at over $25,000, exclusive of several thousand more to come in on settlement with the other roads running in connection. This, for a road 118 miles long, only opened through on the 12th of July last, with inadequate supplies of engines and cars on the connecting roads, argues well for its future business. The Superintendent estimates the receipts for 1854 at $450,000. The cost of the road, fully equipped for such a business, including everything, will not exceed 2¼ millions.

Its business this fall has been limited only by the ability of the Ohio and Pennsylvania, and Cleveland and Columbus roads to take from it the trade offered. The latter company are actively engaged in grading the second track between Cleveland and Galion, 79 miles; 25 of which, between Cleveland

and Grafton, are to be opened this spring, and the residue during 1854.

The Legislature of Illinois is just about convening at an extra session, during which it is hoped that the long pending question respecting the rights of the direct route railroad between Terre Haute and St. Louis, will be favorably terminated for the company. The travelling public are largely interested in it, as every thing is ready to push the work on with the utmost vigor so soon as the Legislative sanction is obtained. The great chains of roads leading from Boston, New York, Philadelphia and Baltimore, will all be beneficially affected by the opening of this valuable link across Illinois.

Yours truly,

OHIO.

Census of Chicago.

The census of Chicago recently completed is as follows: 1st ward, 6.583; 2d ward, 7,557; 3d ward, 6,277; 4th ward, 5,687; 5th ward, 8,097; 6th ward, 6,577; 7th ward, 6,355; 8th ward, 5,776; 9th ward, 5,631. Total white population 58,538. Colored do., 583. On vessels in port 1,531. Total population of Chicago, 60,652; an increase of 57 per cent. over the population at the end of the previous year.

Rock Island and Chicago Railroad.

The following gentlemen have been elected officers of this road—viz:

Mr. J. B. Jervis, President, and Mr. A. C. Flagg, Treasurer. The Directors are: John B. Jervis, New York; Azariah C. Flagg, New York; William Walcott, Utica; Rufus H. King, Albany; George Bliss, Springfield, Mass.; John Stryker, Rome; N. D. Elwood, Joliet; Isaac Cook, Chicago; N. B. Judd, Chicago; T. D. Brewster, Peru; Lemuel Andrews, Rock Island; James Grant, Davenport; E. Cook, Davenport. I. Cook, Assistant Treasurer; N. D. Elwood, Secretary.

Michigan Central Railroad Company.

OFFICE OF THE M. C. R. R. Co.,
Boston, Dec. 28, 1853.

At a meeting of the Board of Directors, held this day, it was

Voted, "That a dividend of eight per cent. be declared, payable in cash, on the 25th of January, to holders of stock at the close of business this day; payment to be made to stockholders residing in Michigan at the office of the local treasurer in Detroit; to holders of stock registered in the city of New York, at the office of the "Farmers' Loan and Trust Company," and to all others at the office of the Treasurer in the city of Boston."

The usual financial statement is herewith submitted; the balance of the income account being $415,011

Eight per cent. on the capital is..... 388,536

$26,475

and leaving the sum of $26,475 undivided.

The Great Western road is announced to be opened on the first proximo, which will then make a perfect railroad communication with Chicago and the west, over the road of this company, and will also connect with various lines now in progress or nearly completed, as follows:

By the New Albany and Salem railroad from Michigan City to Crawfordville, a distance of 125 miles, and which will be opened to the Ohio River, 283 miles, on the 1st of April.

By the Aurora railroad, a connected line of railroad from Chicago to St. Louis.

By the Illinois Central railroad, now running southwest 80 miles from Chicago, which will be completed as represented, during the next season its entire length to Cairo and the mouth of the Ohio at its junction with the Mississippi River.

Two magnificent steamers of the largest class, to be ready in the course of the next spring, are now in process of construction, to run between Buffalo and Detroit in connection with the road of our company.

All of which is respectfully submitted.

GEORGE B. UPTON,
Treasurer.

Michigan Central Railroad Company in General Account, Dec. 1, 1853.

1853		Dr.
Dec. 1.	To Capital Stock.....	$4,856,700 00
	" Bond account, viz:	
	6 per c't. sterling bonds not convertable... 463,613.33	
	7 per c't. bonds not convertible..... 38,000.00	
	8 per c't. bonds not convertible 1,113,450.00	
	8 per c't. bonds convertible .. 2,362,500,00	
		3,977,563 33
	" Bills payable and receivable—balance of this account.	93,937 88
	" Income account-balance of this account.....	415,011 00
		$9,343,212 21

1853.		Cr.
Dec. 1.	By Construction, purchase of road.....	$2,000,000 00
	" Construction, No. 2, expenditures since purchase.....	6,558,338 32
	" Cash in hand of Edwin Noyes, Supt.....	212,403 97
	" Cash in hand of U. Tracy Howe, local Treasurer,	119,284 59
	" New Albany and Salem R. R. Co.....	378,010 00
	" Steamboats now building.....	60,166 68
	" Cash on hand.....	15,008 65
		$9,343,212 21

RECEIPTS OF THE ROAD.

Income Account.

1853.		Dr.
June 30,	To Receipts.....	$ 88,830 20
July 31,	" "	116,942 97
Aug. 31,	" "	122,968 87
Sept. 30,	" "	137,260 64
Oct. 31,	" "	177,662 58
Nov. 30,	" "	258,205 68
		$901,870 94
Dec. 1,	To balance of this acount...	$415,011 00

CONTRA.

1853.		Cr.
June 1,	By balance of account per report this day.....	$ 14,335 45
June 30,	" Operating expenses.....	41,939 01
July 31,	" " "	53,875 16
Aug. 31,	" " "	54,738 32
Sept. 30,	" " "	49,689 91
Oct. 31,	" " "	58,540 80
Nov. 30,	" " "	104,153 67
	" Interest and Miscellaneous,	109,587 62
	" Balance.....	415,011 00
	E. E.	$901,870 94

GEO. B. UPTON,
Treasurer.

Boston, Dec. 1, 1853.

New Car Seat.

We were shown recently at Bridges & Brother's, 64 Courtland Street, an invention by one of that firm, intended to make the common car seat adjustible for night and day riding. By pressing a single knob in the seat-back, the latter is elevated or depressed, and with the important advantage of obtaining greater inclination when *raised* for a night seat. The position of the back is controlled by bent rods, working through eyes in the forked ends of the ordinary rocker which carries the back. The whole cost of the application of this improvement to the common double seat, will not exceed two dollars, or say $60 for a car. Several forms of adjustable seats have been proposed, and among those in use are some wherein the back is thrown *forward* when elevated, giving anything but the position desirable for repose. The simplicity, cheapness, and above all, the *comfort and manageability* of Mr. Bridges' improved seat, make it worthy of adoption by railroad companies, and the approval of all night bound travellers.

Wilmington and Manchester Railroad.—Important Connection formed.

The Wilmington and Manchester Railroad, connecting the roads of South Carolina and Georgia with those of the Northern States, and obviating the *sea* route between Wilmington and Charleston, has been completed, with the exception of the Bridge over the *Peedee* River, and is open for travel. There is no more important connecting link between the railroad systems of different portions of the country than the above, and none that will contribute more to the convenience and comfort of the travelling public. The road has been constructed at very low cost and has sources of lucrative business both in a *through* and *local*, traffic. Travellers can now go from New York to any part of South Carolina and Georgia upon a continuous line of railroad, avoiding all the delays, annoyances, and dangers of the outside route.

Large Consumption of Coal.

A Correspondent of the Philadelphia *Register*, writing from Pittsburgh, makes the following estimate of the amount of coal annually used in, and exported from that city:

Amount of coal consumed in and about the city of Pittsburgh.....	22,205,000 bushels
Amount of coal exported from Pittsburgh to other places.	14'403,921 "
Total.....	86,708,921 bushels

Ohio.

Scioto and Hocking Valley Railroad.—Forty four miles of this road, from Portsmouth to Jackson were completed, and trains run through on Oct. 1st, 1853. Since then the earnings of that portion have been from eight to ten thousand dollars per month, The rolling stock is small as yet, comprising but three locomotives, two passenger and forty freight and platform cars. This will be soon increased to meet the increasing business of the road. On that portion of the road already in use there are seven blast furnaces and one forge in operation, and four new furnaces are building. There is also a large rolling mill at Portsmouth for which these furnaces supply the pig metal.

The balance of the road from Jackson to Newark, 91 miles, is under construction by the con-

tracting firm of Seymour, Moore & Co. More than one half of this distance is already graded and the rest is in rapid progress. It is expected that the whole will be opened in July, 1855.

To Locomotive Engine Builders and Engineers.

THE Proprietors offer for rent for a term of years, with immediate possession, the splendid property, known as the BELLEVILLE IRON WORKS, situated on the Mississippi, directly opposite the City of New Orleans, and within 300 feet of the River, with which it is connected by fine wharves and landings.

The buildings are of brick, with slated roofs, and were erected in 1848 at a very heavy expense; are of a most substantial and durable character and admirably fitted for a Foundry and Machine Shops, or almost any mechanical business. They now contain a new and powerful Engine and Boiler and sufficient machinery, say, planing machines—lathes—boring machines, blacksmith's tools, &c., &c., to employ 100 mechanics, and could be put in working order in a few days. The Buildings cover a lot 300 feet square and are amply large to receive the necessary machinery for the use of 800 to 1000 workmen.

The terminus and depot of the New Orleans, Opelousas and Great Western Railroad is situated about 300 yards from the above property, which could be availed of to great advantage for the manufacture of Locomotives and Railroad work, generally as well as Steam Engines, Sugar Mills, and other descriptions of Machinery.

There are no Shops in New Orleans for the manufacture of Railroad Machinery, and as the Railroad Companies now organized in that city contemplate the construction of over 1000 miles of road,—a large part of which is already under contract,—the property now offered for lease offers a most eligible opportunity for parties desiring to contract to furnish the Engines and Machinery,—for those roads. Responsible contractors with their works on the spot would have an advantage over Northern Workshops in contracting for the Work of the Railroads terminating in New Orleans.

The Establishment and prospect of remunerating work to be secured immediately are worthy the attention of manufacturers and Engineers generally.

Applications from responsible parties will be promptly attended to, and to satisfactory parties the proprietors of the Works can offer favorable terms and arrangements.

Letters may be addressed to

R. B. SUMNER,
No. 61 Camp Street,
New Orleans;

and further information may be had by applying to Messrs. BARSTOW & POPE, Pine Street, New York.

Rail Road Letting.

PROPOSALS will be received at the Office of the Company in the City of Evansville, Indiana, until 6 o'clock, P. M., of *Wednesday, 15th day of February*, 1854, for the *Grubbing, Grading and Bridging* of that part of the 1st Division of the

EVANSVILLE, INDIANAPOLIS, AND CLEVELAND STRAIGHT-LINE RAIL ROAD,

Extending from Evansville to the Crossing of the Ohio and Mississippi Rail Road, in Daviess County, a distance of fifty-four miles.

The work will be divided into sections of about one mile each, and proposals will be received for one or more sections, or for the whole line.

Maps, Profiles and Specifications will be ready for the examination of bidders on and after the 1st of February, and all necessary information given on application to W. C. MOORE, Chief Engineer.

O. H. SMITH, PRESIDENT,
W. CARPENTER, VICE PREST.

Evansville, Jan. 2, 1854.

NEW YORK & ERIE RAILROAD.

NEW YORK, *December* 31, 1853.

THE NEW YORK & ERIE RAILROAD COMPANY, have for sale on favorable terms, the following Schedule of Rolling Stock of the Gauge of

FOUR FEET, TEN INCHES,

all of which can be delivered immediately.

It can be seen at Paterson, and is the entire stock of the Union Railroad, the Paterson & Ramapo Railroad, and the Paterson & Hudson River Railroad.

Reasonable credit will be given on the above, on satisfactory security.

CHA'S MINOT, *Sup't.*

SCHEDULE.

ENGINES.	MAKER.	CYLINDER.	STROKE.	WHEEL.	CONDITION.
R. L. Colt	New Jersey Locomotive Co	16	20	5 feet	Good.
Union	Rogers, Ketchum, & Grosvenor.	15	20	6 ,,	Good.
New York	do.	14½	18	6 ,,	Good.
Ramapo	do.	14½	18	6 ,,	Wants painting & small repairs.
Passaic	do.	14½	22	5½ ,,	do. do. do.
Paterson	do.	12	22	5 ,,	do. do. do.
Whistler	Made in Baltimore	11	16	5 ,,	Wants much repairs.
McNeil	Made in Liverpool	9½	16	4 ,,	In bad order.

CARS.	DESCRIPTION.		BY WHOM MADE.	CONDITION.
2	Passenger,	8 wheels	Cummings & James, Jersey City.	Good.
2	do.	8 do.	Wm. Cummings, Jersey City.	Good, but wants painting.
2	do.	8 do.	Tracy & Fales. Hartford.	Very good.
4	do.	8 do.	Springfield Car & Engine Co.	Good, bnt three want painting.
2	do.	8 do.	A. T. Pearce, Norwich	Good.
2	do.	8 do.	Eaton & Gilbert, Troy	Want repairs.
1	do.	8 do.	New York & Erie R. R. Co.	Good, new.
1	Baggage,	8 do.	do. do.	Good.
6	do.	8 do.	Unknown	Want small repairs.
1	do.	6 do.	do.	do. do.
8	Box freight,	8 do.	New York & Erie R. R. Co.	Good.
18	do.	4 do.	Unknown	Want small repairs.
16	Platform,	8 do.	New York & Erie R. R. Co.	Good.
9	do.	4 do.	Unknown	Want considerable repairs.
1	do.	6 do.	do.	do. do. do.
2	do.	8 do.	do.	do. do. do.

Notice to Contractors.

WARSAW & ROCKFORD RAILROAD.

THE preliminary Surveys are now complete for the First Division, (about 120 miles) from Warsaw, through Nauvoo, Oquawka, Keithsburgh, Rock Island and to Port Byron, including both Rapids of the Mississippi, and the location progressing. The character of the country is such, and the surveys so near to any location that will be made, that Contractors can satisfy themselves of the value of the work as well now as hereafter. Proposals are asked at the Office of the Company in Warsaw, Hancock County, Illinois, for the construction of the whole or part of the road, either by quantities or by the mile. Contract will not be made before the 1st of January, 1854, and only so soon thereafter as advantageous offers can be made. The Company are willing to make general contract, for cash or for cash and securities.

The route of the road is generally in the valley and second bottoms of the Mississippi, and the work can be completed very rapidly. The road is important as one of the improvements of the navigation of the Rapids, and also from its several (two at least) connections with other railroads.

WM. H. ROOSEVELT,
President.
W. R. KINGSLEY,
T. S. O'SULLIVAN, Engineer.
Consulting Engineer.

Warsaw, Nov. 17, 1853.

Notice to Contractors.

CHIEF ENGINEER'S OFFICE,
Norfolk, Va., Jan. 8, 1854.

SEALED PROPOSALS will be received by the undersigned at this Office, from the 1st until the 20th day of March next, at sundown, for the "clearing" and "Graduation" on the line of the "Norfolk and Petersburg Railroad," between that portion of said road now under contract, and its terminus at Petersburg—covering a distance of about eighteen miles; also, for the "Culvert" and "Bridge" *Masonry* of the last *section* of said work.

At the same time, *sealed proposals* are invited for the "Abutment" *Masonry* of "Bridges" over the Eastern and Southern branches of Elizabeth River.

The work will be divided into *sections* of about three miles, and bids may be made for one or more of said sections.

The line, plan, profiles and quantities of work will be ready for examination on and after the 1st of March.

Specifications with forms of contract and proposal may be had of the undersigned after date.

Payments will be made in *current funds* during the progress of the work, in proportion of *four-fifths* of the amount due.

Of bidders personally unknown to the undersigned, evidence of their responsibility will be necessary; and of those to whom work shall be allotted, will be required bond and approved security in an amount not exceeding *one-twentieth* of the amount of their contract, for the timely and faithful execution of the same.

The company reserves the right to accept such proposals as in their judgment will secure the prompt and faithful execution of the work according to contract, or to reject all if none are satisfactory.

The line is easy of access, the country through which it passes abundant in supplies and of a climate highly favorable for the prosecution of work at all seasons.

The work here offered for contract is of a character well worthy the consideration of the most responsible contractors.

W. MAHONE,
Chief Engineer.

January 19.